STIC Search Report
EIC 1700

STIC Database Tracking Number: 163590

TO: Helen Pezzuto **Location: REM 10A29** **Art Unit : 1713** **August 31, 2005** **Case Serial Number: 10/~~66378~~ 646,378**	**From: Kathleen Fuller** **Location: EIC 1700** **REMSEN 4B28** **Phone: 571/272-2505** **Kathleen.Fuller@uspto.gov**

Search Notes

STIC Search Results Feedback Form

USPTO

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1713*
- *Relevant prior art* ***found****, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art* ***not found:***
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Expedite this application, please.

Access DB# 163590

SEARCH REQUEST FORM

A Please Give Request To Ms. K. Fuller.

Scientific and Technical Information Center

Requester's Full Name: HELEN PETTUTO Examiner #: 70058 Date: 8/23/05
Art Unit: 1713 Phone Number ~~30~~ 2-1108 Serial Number: 10/646,378
Mail Box and Bldg/Room Location: REM-10A29 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

SCIENTIFIC REFERENCE BR
Sci & Tech Inf Ctr
AUG 23 RECD
Pat. & T.M. Office

Title of Invention: (SEE ATTACHED)

Inventors (please provide full names):

Earliest Priority Filing Date: 8/22/03

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

A "functionalized" polymer having a (1) polymer backbone defined in Cl. 2 (polyvinylamine is the "elected" species & polyethyleneimine is in examples & claim 36), which is "covalently linked" (or reacted with) a functional molecules ("dial" such as tartrate in cl. 3 and glycidal in cl. 7 is the "elected" species). Also see p. 18-19 attached. Formulas 11, 12, 13 (cl. 4) are the possible functional polymer structure Formula 13 corresponds to cl. 4

Key words
separation, filtration, water/aqueous treatment solutes (see ~~&~~ metallic species in cl. 18), impurities, pollutants, metal contaminants removal.

Many Thanks!

****

STAFF USE ONLY

Searcher: K. Fuller
Searcher Phone #:
Searcher Location:
Date Searcher Picked Up:
Date Completed: 8/31/05
Searcher Prep & Review Time: 40
Clerical Prep Time:
Online Time: 80

Type of Search

NA Sequence (#)
AA Sequence (#)
Structure (#) ✓
Bibliographic ✓
Litigation
Fulltext
Patent Family
Other

Vendors and cost where applicable

STN ✓
Dialog
Questel/Orbit
Dr.Link
Lexis/Nexis
Sequence Systems
WWW/Internet
Other (specify)

PTO-1590 (8-01)

=> FILE REG
FILE 'REGISTRY' ENTERED AT 16:39:19 ON 30 AUG 2005

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 29 AUG 2005 HIGHEST RN 862072-85-3
DICTIONARY FILE UPDATES: 29 AUG 2005 HIGHEST RN 862072-85-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

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*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*
****

Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> FILE HCAPLUS
FILE 'HCAPLUS' ENTERED AT 16:39:23 ON 30 AUG 2005

FILE COVERS 1907 - 30 Aug 2005 VOL 143 ISS 10
FILE LAST UPDATED: 29 Aug 2005 (20050829/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> D QUE
L2            37 SEA FILE=REGISTRY ABB=ON  (10043-35-3/BI OR 10193-36-9/BI OR
                 106-89-8/BI OR 1077-28-7/BI OR 109-64-8/BI OR 13464-58-9/BI OR
                 15116-88-8/BI OR 22541-53-3/BI OR 23713-48-6/BI OR 26658-45-7/B
                 I OR 32449-92-6/BI OR 41058-93-9/BI OR 497-06-3/BI OR 67-64-1/B
                 I OR 7439-92-1/BI OR 7439-97-6/BI OR 7440-02-0/BI OR 7440-21-3/
                 BI OR 7440-22-4/BI OR 7440-36-0/BI OR 7440-38-2/BI OR 7440-39-3
                 /BI OR 7440-42-8/BI OR 7440-43-9/BI OR 7440-47-3/BI OR
                 7440-48-4/BI OR 7440-50-8/BI OR 7440-53-1/BI OR 7440-66-6/BI
                 OR 74913-72-7/BI OR 75-56-9/BI OR 77-86-1/BI OR 7782-49-2/BI
                 OR 83968-02-9/BI OR 87-91-2/BI OR 87032-74-4/BI OR 9002-98-6/BI
                 )
L3             2 SEA FILE=REGISTRY ABB=ON  L2 AND PMS/CI
L5             1 SEA FILE=REGISTRY ABB=ON  "AZIRIDINE, HOMOPOLYMER"/CN
L7             1 SEA FILE=REGISTRY ABB=ON  "2-PROPEN-1-AMINE, HOMOPOLYMER"/CN
L9             2 SEA FILE=REGISTRY ABB=ON  POLYETHYLENIMINE/CN
L11            1 SEA FILE=REGISTRY ABB=ON  "2-PROPENOIC ACID, HOMOPOLYMER"/CN
L13            2 SEA FILE=REGISTRY ABB=ON  PVA/CN
L14            1 SEA FILE=REGISTRY ABB=ON  POLYPYRROLE/CN
L15            7 SEA FILE=REGISTRY ABB=ON  L5 OR L7 OR L9 OR L11 OR L13 OR L14
L16            1 SEA FILE=REGISTRY ABB=ON  "2-PROPENOIC ACID, 2-METHYL-,
                 HOMOPOLYMER"/CN
L17            8 SEA FILE=REGISTRY ABB=ON  L15 OR L16
L18            9 SEA FILE=REGISTRY ABB=ON  L3 OR L17
L19            2 SEA FILE=REGISTRY ABB=ON  L2 AND DIOL
L21            1 SEA FILE=REGISTRY ABB=ON  L2 AND TARTAR?
L22           16 SEA FILE=REGISTRY ABB=ON  L2 NOT (L18 OR L19 OR L21 OR 1/M)
L23           10 SEA FILE=REGISTRY ABB=ON  L22 NOT 1/SI,AS,B
L24            9 SEA FILE=REGISTRY ABB=ON  L23 NOT ACETONE
L25        13110 SEA FILE=HCAPLUS ABB=ON  L18/D
L26          197 SEA FILE=HCAPLUS ABB=ON  L25(L)FUNCTIONAL?
L27        95537 SEA FILE=HCAPLUS ABB=ON  L24
L28            8 SEA FILE=HCAPLUS ABB=ON  L26 AND L27
L29           10 SEA FILE=HCAPLUS ABB=ON  L26 AND (?TARTRAT? OR ?DIOL?)
L30            2 SEA FILE=HCAPLUS ABB=ON  L26 AND ?GLYCIDOL?
L31            2 SEA FILE=HCAPLUS ABB=ON  L26 AND SOLUTE?
L32           13 SEA FILE=HCAPLUS ABB=ON  L26 AND (POLYOL# OR THIOL?)
L33            7 SEA FILE=HCAPLUS ABB=ON  L26 AND WATER/SC,SX
L34           51 SEA FILE=HCAPLUS ABB=ON  L26 AND (AS OR ARSENIC OR BA OR
                 BARIUM OR CDMIUM OR CD OR CR CHROMIUM OR HG OR MERCURY OR PB O
                 LEAD OR AG OR SILVER OR SE OR SELENIUM OR ACTINIDE? OR
                 LANTHANIDE? OR CU OR COPPER OR NI NICKEL OR ZN OR ZINC OR CO
                 OR COBALT OR BORON OR SI OR SB OR ANTIMONY OR SILICON OR B)
L35           20 SEA FILE=HCAPLUS ABB=ON  L26 AND (NI OR NICKEL OR PB OR LEAD
                 OR CR OR CHROMIUM OR AR OR CADMIUM)
L36           20 SEA FILE=REGISTRY ABB=ON  L2 AND (1/M OR 1/AR OR 1/SI OR 1/B)
L37      1704323 SEA FILE=HCAPLUS ABB=ON  L36
L38           19 SEA FILE=HCAPLUS ABB=ON  L26 AND L37
L39           56 SEA FILE=HCAPLUS ABB=ON  L34 OR L35 OR L38
L40           39 SEA FILE=HCAPLUS ABB=ON  L39 AND (WATER? OR AQUEOUS? OR H2O)
L43        31278 SEA FILE=HCAPLUS ABB=ON  L37(L)REM/RL
L44            4 SEA FILE=HCAPLUS ABB=ON  L26 AND (NI OR NICKEL OR PB OR LEAD
                 OR CR OR CHROMIUM OR AR OR CADMIUM)(L)REM/RL
L45            4 SEA FILE=HCAPLUS ABB=ON  L26 AND (AS OR ARSENIC OR BA OR
                 BARIUM OR CDMIUM OR CD OR CR CHROMIUM OR HG OR MERCURY OR PB O
                 LEAD OR AG OR SILVER OR SE OR SELENIUM OR ACTINIDE? OR
                 LANTHANIDE? OR CU OR COPPER OR NI NICKEL OR ZN OR ZINC OR CO
                 OR COBALT OR BORON OR SI OR SB OR ANTIMONY OR SILICON OR
                 B)(L)REM/RL
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L46          4 SEA FILE=HCAPLUS ABB=ON  L43 AND L26
L47          4 SEA FILE=HCAPLUS ABB=ON  (L44 OR L45 OR L46)
L48          7 SEA FILE=HCAPLUS ABB=ON  L40 AND REMOV?
L49         37 SEA FILE=HCAPLUS ABB=ON  (L28 OR L29 OR L30 OR L31 OR L32 OR
               L33) OR L47 OR L48
L51          2 SEA FILE=HCAPLUS ABB=ON  L40 AND (REMOV? OR SEPARAT?)(3A)METAL?

L52         37 SEA FILE=HCAPLUS ABB=ON  L49 OR L51
L54        640 SEA FILE=HCAPLUS ABB=ON  FUNCTIONAL?(5A)(POLYVINYLAMINE OR
               POLYETHYLENIMINE OR POLYALLYLAMINE OR POLYPROPYLAMINE OR PVA
               OR POLYVINYL ALCOHOL? OR POLYACRYLAMIDE OR POLYACRYLIC ACID OR
               POLYMETHACRYLIC ACID OR POLYVINYLACETATE OR POLYPYRROLE)
L55         58 SEA FILE=HCAPLUS ABB=ON  L37 AND L54
L56         26 SEA FILE=HCAPLUS ABB=ON  L55 AND (WATER? OR AQUEOUS? OR H2O)
L57         10 SEA FILE=HCAPLUS ABB=ON  L56 AND (REM/RL OR SEP/RL OR PUR/RL)
L58         45 SEA FILE=HCAPLUS ABB=ON  L52 OR L57
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=> D L58 BIB ABS IND HITSTR 1-45

L58 ANSWER 1 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:732739 HCAPLUS
TI Manufacture of crosslinked polyamine derivatives as scale-**removing** components in hard surface cleaners
IN Becker, Heike; Degen, Hans-Juergen; Guzmann, Marcus; Gass, Tanja; Braig, Volker
PA BASF Aktiengesellschaft, Germany
SO PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005073357	A2	20050811	WO 2005-EP794	20050127
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 102004005010	A1	20050818	DE 2004-102004005010	20040130
PRAI DE 2004-102004005010 A		20040130		

AB **H2O**-soluble or **H2O**-dispersible compds., useful as additives in hard surface cleaners contributing to faster drying, reduced spotting and film formation, dispersion of lime soap residues, reduction or prevention of **H2O** condensation, etc., are manufactured by conversion of (A) polyalkylenepolyamines, polyamidoamines, ethyleneimine-grafted polyamidoamines and/or polyether amines with (B) halohydrin-, glycidyl-, aziridinyl, isocyanato-functional or halo-containing crosslinking agents and (C) monoethylenically unsatd. carboxylic acids, their salts, esters, amides or nitriles, chlorocarboxylic acids or glycidyl-containing acids, amides or esters, in **H2O**. For example, 350 g of Lupasol HF (56% solution in **H2O**; mol. weight 25,000 g/mol) was diluted with 456 g **H2O**, heated to 70°, 18 mL of 50% **aqueous** solution of

polyethylene glycol (mol. weight 660) reaction product with epichlorohydrin was added as crosslinking agent, the mixture was stirred for 5 h at 70°, heated to 80° and 259.4 g acrylic acid was added dropwise over 3 h to give a viscous, yellow-orange solution of a title derivative containing 44.1% solids and having K value 23.1 (1% in **H2O**). A solution of the derivative (0.5% in **H2O**) was applied on the surface of ceramic tiles that were dried and wetted with **H2O** to show smooth liquid film and no streaks.

IC ICM C11D001-30

CC 46-6 (Surface Active Agents and Detergents)
Section cross-reference(s): 35

ST polyethyleneimine crosslinking polyethylene glycol glycidyl ether hard surface cleaner; acrylic acid Michael addn crosslinked polyethyleneimine hard surface cleaner; tile ceramic wetting crosslinked polyethyleneimine acrylic acid adduct

IT Michael reaction
(agents, unsatd. carboxylic acids; manufacture of crosslinked polyethyleneimine derivs. as scale-**removing** components in hard surface cleaners)

IT Detergents
(cleaning compns.; manufacture of crosslinked polyethyleneimine derivs. as scale-**removing** components in hard surface cleaners)

IT Polyoxyalkylenes
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of crosslinked polyethyleneimine derivs. as scale-**removing** components in hard surface cleaners)

IT Polyamines
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyalkylene-, crosslinked; manufacture of crosslinked polyethyleneimine derivs. as scale-**removing** components in hard surface cleaners)

IT Crosslinking agents
(polyethylene glycol glycidyl ethers; manufacture of crosslinked polyethyleneimine derivs. as scale-**removing** components in hard surface cleaners)

IT 3039-83-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(Michael addition with crosslinked polyethyleneimine; manufacture of crosslinked polyethyleneimine derivs. as scale-**removing** components in hard surface cleaners)

IT 79-10-7DP, Acrylic acid, Michael adducts with polyethyleneimine reaction products with polyethylene glycol glycidyl ether **106-89-8DP**, Epichlorohydrin, ethers with polyethylene glycol, reaction products with polyethyleneimine, acrylic acid Michael adducts **9002-98-6DP**, Lupasol WF, reaction products with epoxy-**functional** polyethylene glycol, acrylic acid Michael adducts 15214-89-8DP, 2-Acrylamido-2-methylpropanesulfonic acid, Michael adducts with polyethyleneimine reaction products with polyethylene glycol glycidyl ether 25322-68-3DP, Polyethylene glycol, glycidyl ethers, reaction products with polyethyleneimine, acrylic acid Michael adducts
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crosslinked; manufacture of crosslinked polyethyleneimine derivs. as scale-**removing** components in hard surface cleaners)

IT **106-89-8DP**, Epichlorohydrin, ethers with polyethylene glycol, reaction products with polyethyleneimine, acrylic acid Michael adducts **9002-98-6DP**, Lupasol WF, reaction products with epoxy-**functional** polyethylene glycol, acrylic acid Michael adducts

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crosslinked; manufacture of crosslinked polyethyleneimine derivs. as scale-**removing** components in hard surface cleaners)

RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

L58 ANSWER 2 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:475066 HCAPLUS
DN 143:177680
TI Organosilicon Dendritic Networks in Porous Ceramics for Water Purification
AU Arkas, Michael; Tsiourvas, Dimitris; Paleos, Constantinos M.
CS Institute of Physical, NCSR "Demokritos", Attiki, Aghia Paraskevi, 15310, Greece
SO Chemistry of Materials (2005), 17(13), 3439-3444
CODEN: CMATEX; ISSN: 0897-4756
PB American Chemical Society
DT Journal
LA English
AB Triethoxysilyl-functionalized poly(propylene imine) (DAB32) dendrimer and poly(ethylene imine) (PEI5) hyperbranched polymer were conveniently prepared in chloroform and were subsequently allowed to impregnate porous ceramic filters. Following hydrolysis of triethoxysilyl moieties to Si-OH, polycondensation occurred affording networks containing Si-O-Si bridges with simultaneous formation of Si-O-M bridges resulting from the interaction of Si-OH with M-OH of the ceramic surface. In this manner, covalent binding of the organosilicon dendritic polymers is achieved at the ceramic surface. These porous ceramic filters, impregnated with organosilicon dendritic polymers, were employed for water purification The concentration of polycyclic aromatic compds. in water was reduced to the level of a few ppb by continuous filtration of contaminated water through these filters. The filters loaded with pollutants were effectively regenerated by treatment with acetonitrile.
CC 57-2 (Ceramics)
Section cross-reference(s): **61**
ST organosilicon dendritic polymer porous ceramic composite filter water purifn
IT Polycyclic compounds
RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC

(Process)
(aromatic, water contaminant; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT Filters
(ceramic, composites with organosilicon dendritic polymer; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT Dendritic polymers
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(composites with porous ceramics; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT Ceramics
(filters, composites with organosilicon dendritic polymer; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT Aromatic compounds
RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
(polycyclic, water contaminant; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT Water purification
(preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT **9002-98-6DP**, triethoxysilyl-**functionalized**
25037-42-7DP, Poly(propylene imine), Triethoxysilyl-functionalized
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(composites with porous ceramics; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT 75-05-8, Acetonitrile, uses
RL: NUU (Other use, unclassified); USES (Uses)
(filter regeneration agent; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT 13463-67-7, Titania, properties
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(porous composites with organosilicon dendritic networks; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT 7732-18-5P, Water, preparation
RL: PUR (Purification or recovery); PREP (Preparation)
(preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT 85-01-8, Phenanthrene, processes 129-00-0, Pyrene, processes 135-19-3, β-Naphthol, processes
RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
(water contaminant; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT **9002-98-6DP**, triethoxysilyl-**functionalized**
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(composites with porous ceramics; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

RE.CNT 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 3 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:451445 HCAPLUS
DN 142:482505
TI Production of water-soluble carboxylic acid-functionalized polymers of improved purity
IN Harris, Milton J.; Kozlowski, Antoni; Guo, Lihong
PA Nektar Therapeutics AL, Corporation, USA
SO PCT Int. Appl., 46 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005047366	A1	20050526	WO 2004-US36850	20041105

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2003-517794P P 20031106

AB A water-soluble nonpeptidic polymer functionalized with a carboxyl group is produced by (a) reacting an ester reagent RC(O)OR', where R' is a tertiary group, and R comprises a functional group X, with a water-soluble nonpeptidic polymer POLY-Y, where Y is a functional group which reacts with X to form a covalent bond, to form a tertiary ester of the polymer; (b) treating the tertiary ester of the polymer with a strong base in aqueous solution to form a carboxylate salt of the polymer, and (c) treating the carboxylate salt of the polymer with an inorg. acid in aqueous solution to convert the carboxylate salt to a carboxylic acid. The method provides water-soluble carboxylic acid-functionalized polymers in high yield and free from significant amts. of the starting polymers or reagents affecting the product stability. The water-soluble carboxylic acid-functionalized polymers can be used for conjugation with biol. active mols. by reacting the carboxylic acid groups of the polymers with functional groups (amine, hydroxyl, **thiol**) of the biol. active mols.

IC ICM C08G065-332
CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 63
ST carboxylic acid functionalized polymer biol active mol conjugate; contaminant free carboxy terminated polyethylene glycol
IT Polyphosphazenes

Polysaccharides, preparation
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(carboxy-containing derivs.; production of water-soluble carboxylic acid-functionalized polymers of improved purity)

IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(carboxy-terminated; production of water-soluble carboxylic acid-functionalized polymers of improved purity)

IT Acids, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(inorg.; production of water-soluble carboxylic acid-functionalized polymers of improved purity)

IT Polyamines
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(polyethylene-, N-acyl, carboxy-containing derivs.; production of water-soluble carboxylic acid-functionalized polymers of improved purity)

IT Drug delivery systems
(production of water-soluble carboxylic acid-functionalized polymers of improved purity)

IT Alkali metal hydroxides
Bases, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(production of water-soluble carboxylic acid-functionalized polymers of improved purity)

IT Polymers, preparation
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(water-soluble; production of water-soluble carboxylic acid-functionalized polymers of improved purity)

IT 26124-68-5DP, carboxy-containing derivs.
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(assumed monomers; production of water-soluble carboxylic acid-functionalized polymers of improved purity)

IT **9002-89-5DP**, Poly(vinyl alcohol), carboxy-containing derivs.
9003-01-4DP, Poly(acrylic acid), carboxy-containing derivs.
9003-39-8DP, Polyvinylpyrrolidone, carboxy-containing derivs. 25322-68-3DP, Poly(ethylene glycol), carboxy-terminated 26009-03-0DP, Poly[oxy(1-oxo-1,2-ethanediyl)], carboxy-containing derivs. 28902-82-1DP, Poly(N-acryloylmorpholine), carboxy-containing derivs. 39927-08-7P 67665-18-3P
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(production of water-soluble carboxylic acid-**functionalized** polymers of improved purity)

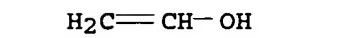
IT 1310-73-2, Sodium hydroxide, reactions 5292-43-3, tert-Butyl bromoacetate 7647-01-0, Hydrochloric acid, reactions 7664-38-2, Phosphoric acid, reactions 7664-93-9, Sulfuric acid, reactions 7697-37-2, Nitric acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(production of water-soluble carboxylic acid-functionalized polymers of improved purity)

IT **9002-89-5DP**, Poly(vinyl alcohol), carboxy-containing derivs.
9003-01-4DP, Poly(acrylic acid), carboxy-containing derivs.
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(production of water-soluble carboxylic acid-**functionalized** polymers

of improved purity)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

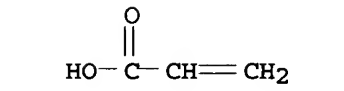
CRN 557-75-5
CMF C2 H4 O



RN 9003-01-4 HCAPLUS
CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
CMF C3 H4 O2



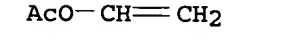
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 4 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:441019 HCAPLUS
DN 143:133782
TI Synthesis of End-Functional Poly(vinyl acetate) by Cobalt-Mediated Radical Polymerization
AU Debuigne, Antoine; Caille, Jean-Raphaeel; Jerome, Robert
CS Center for Education and Research on Macromolecules (CERM), University of Liege, Liege, 4000, Belg.
SO Macromolecules (2005), 38(13), 5452-5458
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
AB Poly(vinyl acetate) (PVAc) chains prepared by cobalt-mediated radical polymerization in the presence of cobalt(II) acetylacetonate (Co(acac)2) were quenched by radical scavengers, such as **thiol** compds. and nitroxides, to displace the covalently bonded Co(acac)2 moiety and to end-cap them with a reactive group. The cobalt complex was completely removed by filtration, as confirmed by the induction coupled plasma (ICP) anal. of the polymer before and after treatment. Growing poly(vinyl acetate) chains can be end-functionalized either by addition of an appropriately functionalized nonpolymerizable olefin or by displacement of the Co(acac)2 moiety by a functionalized nitroxide. This strategy allows PVAc to be synthesized with a predictable mol. weight, a reasonably low polydispersity (Mw/Mn .apprx. 1.1-1.3), and a functional ω end group, e.g., hydroxyl and epoxy.
CC 35-8 (Chemistry of Synthetic High Polymers)
ST end functional polyvinyl acetate cobalt catalyst radical polymn; **thiol** functional polyvinyl acetate cobalt catalyst radical polymn; nitroxide functional polyvinyl acetate cobalt catalyst radical polymn

IT Polymerization catalysts
(radical, cobalt bis(acetylacetonate); preparation of end-functional poly(vinyl acetate) by cobalt-mediated radical polymerization)
IT 9003-20-7P, Poly(vinyl acetate)
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and end functionalization of)
IT 14024-48-7, Cobalt bis(acetylacetonate)
RL: CAT (Catalyst use); USES (Uses)
(preparation of end-functional poly(vinyl acetate) by cobalt-mediated radical polymerization)
IT 107-03-9DP, 1-Propanethiol, reaction products with poly(vinyl acetate)
625-38-7DP, 3-Butenoic acid, reaction products with poly(vinyl acetate)
627-27-0DP, 3-Buten-1-ol, reaction products with poly(vinyl acetate)
2564-83-2DP, TEMPO, reaction products with poly(vinyl acetate)
9003-20-7DP, Poly(vinyl acetate), end **functionalized** derivs. 10353-53-4DP, 1,2-Epoxy-5-hexene, reaction products with poly(vinyl acetate)
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of end-**functional** poly(vinyl acetate) by cobalt-mediated radical polymerization)
IT **9003-20-7DP**, Poly(vinyl acetate), end **functionalized** derivs.
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of end-**functional** poly(vinyl acetate) by cobalt-mediated radical polymerization)
RN 9003-20-7 HCAPLUS
CN Acetic acid ethenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 108-05-4
CMF C4 H6 O2



RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 5 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:429450 HCAPLUS
DN 142:465474
TI Acrylic-acid-based homopolymers modified with taurine for water treatment.
IN Guzmann, Marcus; Buechner, Karl-Heinz; Baum, Pia; Brodt, Gregor
PA BASF Aktiengesellschaft, Germany
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005044868	A1	20050519	WO 2004-EP12542	20041105

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,

TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10352457 A1 20050609 DE 2003-10352457 20031107
PRAI DE 2003-10352457 A 20031107

AB (Meth)acrylic acid copolymers prepared by radical polymerization of monomers at 100 - 200° followed by functionalizing with aminoalkyl sulfonic acid derivs. at 140 250°is used for treating water, preventing scale during the extraction of oil, and for preventing corrosion in aqueous systems.

IC ICM C08F008-32
ICS C02F005-12; C08F020-06

CC 46-6 (Surface Active Agents and Detergents)
Section cross-reference(s): **61**

ST methacrylic acid copolymer treating water preventing scale extn oil; radical polymn monomer functionalizing aminoalkyl sulfonic acid copolymer manuf

IT Corrosion prevention
Petroleum recovery
Water purification
((meth)acrylic acid copolymers prepared by radical polymerization and functionalizing with aminoalkyl sulfonic acid derivs. for treating water)

IT Sulfonic acids, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(aminoalkyl derivs., reaction products with acrylic acid homopolymer; (meth)acrylic acid copolymers prepared by radical polymerization and functionalizing with aminoalkyl sulfonic acid derivs. for treating water)

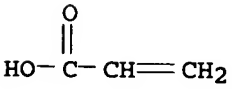
IT 107-35-7DP, Taurine, reaction products with acrylic acid homopolymer
9003-01-4DP, Acrylic acid homopolymer, reaction products with taurine
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
((meth)acrylic acid copolymers prepared by radical polymerization and **functionalizing** with aminoalkyl sulfonic acid derivs. for treating water)

IT **9003-01-4DP**, Acrylic acid homopolymer, reaction products with taurine
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
((meth)acrylic acid copolymers prepared by radical polymerization and **functionalizing** with aminoalkyl sulfonic acid derivs. for treating water)

RN 9003-01-4 HCAPLUS
CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
CMF C3 H4 O2



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 6 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:428122 HCAPLUS
DN 142:472629
TI Ink-jet printing sheet and ink receiving layer composition for it
IN Inoue, Masato; Matsuo, Masatoshi; Tanaka, Kazuyoshi
PA Dainippon Ink and Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2005125515	A2	20050519	JP 2003-360530	20031021
PRAI JP 2003-360530		20031021		

AB The sheet contains (A) a polymer having ≥1 group selected from quaternary ammonium salt, OH, acetoacetyl, carboxylic acid (salt), sulfonic acid (salt). and (B) a silane coupling agent. The sheet shows good ink solvent absorption, water resistance, and gives glossy images.
IC ICM B41M005-00
ICS B41J002-01
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST ink jet printing sheet silane coupling agent; polymer quaternary ammonium salt hydroxy group printing sheet
IT Acrylic polymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(cationic; ink-jet printing sheet containing silane coupling agent and polymer with functional group)
IT Polyamides, uses
Polyamines
RL: TEM (Technical or engineered material use); USES (Uses)
(epichlorohydrin derivs.; ink-jet printing sheet containing silane coupling agent and polymer with functional group)
IT Ink-jet recording sheets
(ink-jet printing sheet containing silane coupling agent and polymer with functional group)
IT Polyurethanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ink-jet printing sheet containing silane coupling agent and polymer with functional group)
IT Amidines
RL: TEM (Technical or engineered material use); USES (Uses)
(vinyl derivs., polymers; ink-jet printing sheet containing silane coupling agent and polymer with functional group)
IT 919-30-2, 3-Aminopropyltriethoxysilane 27668-52-6
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(coupling agent; ink-jet printing sheet containing silane coupling agent and polymer with functional group)
IT **106-89-8D**, Epichlorohydrin, reaction products with polyamides
9002-98-6D, quaternary ammonium salts 26062-79-3, Poly(diallyldimethylammonium chloride) 26336-38-9D, Poly(vinylamine), quaternary ammonium salts 26591-12-8D, Dicyandiamide-formaldehyde copolymer, quaternary ammonium salts **30551-89-4D**, Polyallylamine, quaternary ammonium salts 39290-68-1, Poly(vinyl

alcohol) acetoacetate
RL: TEM (Technical or engineered material use); USES (Uses)
(ink-jet printing sheet containing silane coupling agent and polymer with **functional** group)

IT **106-89-8D**, Epichlorohydrin, reaction products with polyamides **9002-98-6D**, quaternary ammonium salts **30551-89-4D**, Polyallylamine, quaternary ammonium salts
RL: TEM (Technical or engineered material use); USES (Uses)
(ink-jet printing sheet containing silane coupling agent and polymer with **functional** group)

RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

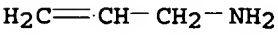
CM 1

CRN 151-56-4
CMF C2 H5 N

RN 30551-89-4 HCAPLUS
CN 2-Propen-1-amine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-11-9
CMF C3 H7 N



L58 ANSWER 7 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:160874 HCAPLUS
DN 142:240906
TI Functionalized **water**-soluble polymers for binding to **solutes** in **aqueous** solutions
IN Smith, Barbara F.; Robison, Thomas W.
PA USA
SO U.S. Pat. Appl. Publ., 27 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

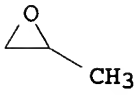
applicants

PI US 2005043493 A1 20050224 US 2003-646378 20030822
PRAI US 2003-646378 20030822
AB A functionalized polymer is for binding a dissolved mol. in an **aq** . solution The polymer has a backbone polymer to which ≥1 functional groups are covalently linked. The backbone polymer can be polyethylenimine, polyvinylamine, polyallylamine, or polypropylamine. These polymers are generally **water**-soluble, but can be insol. when crosslinked. The functional group can be **diol** derivs., **polyol** derivs., **thiol** and dithiol derivs., guest-host groups, affinity groups, beta-diphosphonic acids, and beta-diamides.
IC ICM C08F002-00
INCL 526061000
CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): **61**
ST **polyethylenimine functionalized** binding metal **solute**
IT Sequestering agents
(functionalized **water**-soluble polymers for binding/ **removing solutes** from **aqueous** solns.)
IT **Actinides**
Rare earth metals, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(functionalized **water**-soluble polymers for binding/ **removing solutes** from **aqueous** solns.)
IT **75-56-9DP**, Propylene oxide, reaction products with polyethyleneimine 77-86-1DP, Tris(hydroxymethyl)aminomethane, reaction products with polyethyleneimine 87-91-2DP, reaction products with polyethyleneimine **106-89-8DP**, Epichlorohydrin, reaction products with polyethyleneimine **109-64-8DP**, 1,3-Dibromopropane, reaction products with polyethyleneimine **1077-28-7DP**, dl-Thioctic acid, reaction products with polyethyleneimine **9002-98-6DP**, **functionalized 26658-45-7DP**, Aziridine-**glycidol** copolymer, **functionalized 32449-92-6DP**, D-Glucurono-6,3 lactone, reaction products with polyethyleneimine **74913-72-7DP**, Polymin P, functionalized
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); PREP (Preparation); PROC (Process)
(**functionalized water**-soluble polymers for binding/ **removing solutes** from **aqueous** solns.)
IT **83968-02-9P 87032-74-4P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(functionalized **water**-soluble polymers for binding/ **removing solutes** from **aqueous** solns.)
IT **10043-35-3**, Boric Acid, processes **10193-36-9**, Silicic Acid 13464-58-9, Arsenous acid
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(functionalized **water**-soluble polymers for binding/ **removing solutes** from **aqueous** solns.)
IT 67-64-1, Acetone, reactions 497-06-3, 1-Butene-3,4-**diol**
RL: RCT (Reactant); RACT (Reactant or reagent)
(functionalized **water**-soluble polymers for binding/ **removing solutes** from **aqueous** solns.)
IT **7439-92-1**, **Lead**, processes **7439-97-6**, **Mercury**, processes **7440-02-0**, **Nickel**, processes **7440-21-3**, **Silicon**, processes **7440-22-4**, **Silver**, processes **7440-36-0**, **Antimony**, processes 7440-38-2, **Arsenic**, processes **7440-39-3**, **Barium**, processes **7440-42-8**,

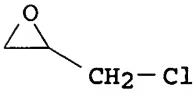
Boron, processes **7440-43-9**, **Cadmium**, processes **7440-47-3**, **Chromium**, processes **7440-48-4**, **Cobalt**, processes **7440-50-8**, **Copper**, processes **7440-53-1**, Europium, processes **7440-66-6**, **Zinc**, processes **7782-49-2**, **Selenium**, processes **15116-88-8**, Americium 234, processes **22541-53-3**, processes **23713-48-6**, processes **41058-93-9**, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(functionalized **water**-soluble polymers for binding/ **removing solutes** from **aqueous** solns.)

IT **75-56-9DP**, Propylene oxide, reaction products with polyethyleneimine **106-89-8DP**, Epichlorohydrin, reaction products with polyethyleneimine **109-64-8DP**, 1,3-Dibromopropane, reaction products with polyethyleneimine **1077-28-7DP**, dl-Thioctic acid, reaction products with polyethyleneimine **9002-98-6DP**, **functionalized 26658-45-7DP**, Aziridine-**glycidol** copolymer, **functionalized 32449-92-6DP**, D-Glucurono-6,3 lactone, reaction products with polyethyleneimine **74913-72-7DP**, Polymin P, functionalized
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); PREP (Preparation); PROC (Process)
(**functionalized water**-soluble polymers for binding/ **removing solutes** from **aqueous** solns.)

RN 75-56-9 HCAPLUS
CN Oxirane, methyl- (9CI) (CA INDEX NAME)

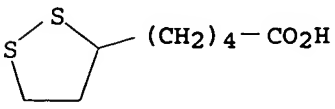


RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



RN 109-64-8 HCAPLUS
CN Propane, 1,3-dibromo- (8CI, 9CI) (CA INDEX NAME)

RN 1077-28-7 HCAPLUS
CN 1,2-Dithiolane-3-pentanoic acid (9CI) (CA INDEX NAME)



RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

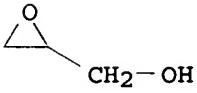
CM 1

CRN 151-56-4
CMF C2 H5 N

RN 26658-45-7 HCAPLUS
CN Oxiranemethanol, polymer with aziridine (9CI) (CA INDEX NAME)

CM 1

CRN 556-52-5
CMF C3 H6 O2

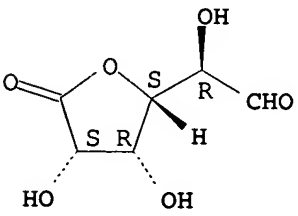


CM 2

CRN 151-56-4
CMF C2 H5 N

RN 32449-92-6 HCAPLUS
CN D-Glucuronic acid, γ-lactone (9CI) (CA INDEX NAME)

Absolute stereochemistry.

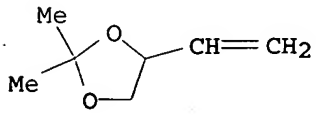


RN 74913-72-7 HCAPLUS
CN Polymin P (9CI) (CA INDEX NAME)

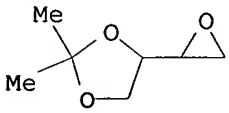
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **83968-02-9P 87032-74-4P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(functionalized **water**-soluble polymers for binding/ **removing solutes** from **aqueous** solns.)

RN 83968-02-9 HCAPLUS
CN 1,3-Dioxolane, 4-ethenyl-2,2-dimethyl- (9CI) (CA INDEX NAME)

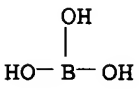


RN 87032-74-4 HCAPLUS
CN 1,3-Dioxolane, 2,2-dimethyl-4-oxiranyl- (9CI) (CA INDEX NAME)

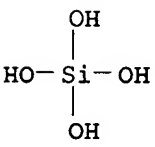


IT **10043-35-3**, Boric Acid, processes **10193-36-9**, Silicic Acid
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(functionalized **water**-soluble polymers for binding/ **removing solutes** from **aqueous** solns.)

RN 10043-35-3 HCAPLUS
CN Boric acid (H3BO3) (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 10193-36-9 HCAPLUS
CN Silicic acid (H4SiO4) (8CI, 9CI) (CA INDEX NAME)



IT **7439-92-1**, **Lead**, processes **7439-97-6**, **Mercury**, processes **7440-02-0**, **Nickel**, processes **7440-21-3**, **Silicon**, processes **7440-22-4**, **Silver**, processes **7440-36-0**, **Antimony**, processes **7440-39-3**, **Barium**, processes **7440-42-8**, **Boron**, processes **7440-43-9**, **Cadmium**, processes **7440-47-3**, **Chromium**, processes **7440-48-4**, **Cobalt**, processes **7440-50-8**, **Copper**, processes **7440-53-1**, Europium, processes **7440-66-6**, **Zinc**, processes **7782-49-2**, **Selenium**, processes **15116-88-8**, Americium 234, processes **22541-53-3**,

processes **23713-48-6**, processes **41058-93-9**, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(functionalized **water**-soluble polymers for binding/
removing solutes from **aqueous** solns.)

RN 7439-92-1 HCAPLUS
CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

RN 7439-97-6 HCAPLUS
CN Mercury (8CI, 9CI) (CA INDEX NAME)

Hg

RN 7440-02-0 HCAPLUS
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-21-3 HCAPLUS
CN Silicon (7CI, 8CI, 9CI) (CA INDEX NAME)

Si

RN 7440-22-4 HCAPLUS
CN Silver (8CI, 9CI) (CA INDEX NAME)

Ag

RN 7440-36-0 HCAPLUS
CN Antimony (8CI, 9CI) (CA INDEX NAME)

Sb

RN 7440-39-3 HCAPLUS
CN Barium (8CI, 9CI) (CA INDEX NAME)

Ba

RN 7440-42-8 HCAPLUS
CN Boron (8CI, 9CI) (CA INDEX NAME)

B

RN 7440-43-9 HCAPLUS
CN Cadmium (8CI, 9CI) (CA INDEX NAME)

Cd

RN 7440-47-3 HCAPLUS
CN Chromium (8CI, 9CI) (CA INDEX NAME)

Cr

RN 7440-48-4 HCAPLUS
CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 7440-53-1 HCAPLUS
CN Europium (8CI, 9CI) (CA INDEX NAME)

Eu

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

RN 7782-49-2 HCAPLUS
CN Selenium (8CI, 9CI) (CA INDEX NAME)

Se

RN 15116-88-8 HCAPLUS
CN Americium, isotope of mass 234 (8CI, 9CI) (CA INDEX NAME)

^{234}Am

RN 22541-53-3 HCAPLUS
CN Cobalt, ion (Co2+) (8CI, 9CI) (CA INDEX NAME)

Co^{2+}

RN 23713-48-6 HCAPLUS
CN Antimony, ion (Sb3+) (8CI, 9CI) (CA INDEX NAME)

Sb^{3+}

RN 41058-93-9 HCAPLUS
CN Antimony, ion (Sb4+) (9CI) (CA INDEX NAME)

Sb^{4+}

L58 ANSWER 8 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:69261 HCAPLUS
DN 142:416407
TI Adsorption of Co(II) by a carboxylate-**functionalized** **polyacrylamide** grafted lignocellulosics
AU Shibi, I. G.; Anirudhan, T. S.
CS Department of Chemistry, University of Kerala, Trivandrum, 695 581, India
SO Chemosphere (2005), 58(8), 1117-1126
CODEN: CMSHAF; ISSN: 0045-6535
PB Elsevier B.V.
DT Journal
LA English
AB A new adsorbent (PGBS-COOH) with carboxylate functional group at the chain end was synthesized by graft copolymn. of acrylamide onto banana stalk, BS (Musa Paradisiaca) using ferrous ammonium sulfate/H2O2 redox initiator system. The efficiency of the adsorbent in the removal of Co(II) from **water** was studied using batch adsorption technique. The adsorbent exhibits very high adsorption potential for Co(II) and under optimum conditions >99% removal was achieved. The maximum adsorption capacity was observed at pH 6.5-9.0. The equilibrium isotherm data were analyzed using 3 isotherm models, Langmuir, Freundlich and Scatchard, to determine the best fit equation for the sorption of Co(II) on the PGBS-COOH. A comparative study with a com. cation exchanger, Ceralite IRC-50, with carboxylate functional group showed that PGBS-COOH is 2.8 times more effective compared to Ceralite IRC-50 at 30°. Synthetic nuclear power plant coolant **water** samples were also treated by the adsorbent to demonstrate its efficiency in removing Co(II) from **water** in the presence of other metal ions. Acid regeneration was tried for several cycles to recover the adsorbed metal ions and also to restore the sorbent to its original state.
CC 60-3 (Waste Treatment and Disposal)
Section cross-reference(s): 61, 71
ST adsorption cobalt carboxylate **functionalized** **polyacrylamide** grafted lignocellulosic
IT Adsorbents
Musa paradisiaca
Nuclear power plants
(adsorption of cobalt by carboxylate-**functionalized** **polyacrylamide** grafted lignocellulosics)
IT Wastewater treatment
Water purification
(adsorption; adsorption of cobalt by carboxylate-**functionalized**

polyacrylamide grafted lignocellulosics)
IT Solid wastes
(banana stalk; adsorption of cobalt by carboxylate-**functionalized polyacrylamide** grafted lignocellulosics)
IT Wastewater treatment
Water purification
(cation exchange; adsorption of cobalt by carboxylate-**functionalized polyacrylamide** grafted lignocellulosics)
IT Carboxyl group
(graft polymerized banana stalk containing; adsorption of cobalt by carboxylate-**functionalized polyacrylamide** grafted lignocellulosics)
IT 9002-29-3, Amberlite IRC 50
RL: NUU (Other use, unclassified); USES (Uses)
(adsorption of cobalt by carboxylate-**functionalized polyacrylamide** grafted lignocellulosics)
IT **7440-48-4**, Cobalt, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(adsorption of cobalt by carboxylate-**functionalized polyacrylamide** grafted lignocellulosics)
IT 9003-05-8P, PolyAcrylamide
RL: NUU (Other use, unclassified); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(banana stalk graft polymerized; adsorption of cobalt by carboxylate-**functionalized polyacrylamide** grafted lignocellulosics)
IT **7440-48-4**, Cobalt, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(adsorption of cobalt by carboxylate-**functionalized polyacrylamide** grafted lignocellulosics)
RN 7440-48-4 HCAPLUS
CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 9 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:62948 HCAPLUS
DN 142:416381
TI Integrated removal of nonionic surfactant and cobalt(II) from plating rinse **water**
AU Snukiskis, J.; Kauspediene, D.
CS Institute of Chemistry, Vilnius, 01108, Lithuania
SO Colloids and Surfaces, A: Physicochemical and Engineering Aspects (2005), 253(1-3), 27-32
CODEN: CPEAEH; ISSN: 0927-7757
PB Elsevier B.V.
DT Journal
LA English
AB Cosorption of nonionic surfactant Lutensol AO-10 (oxyethylated higher fatty alcs.) and Co(II) by the H form of **polyacrylic acid-functionalized** cation exchanger Purolite C 106 was studied to establish the adequacy of this resin for the simultaneous removal of Co(II) and nonionic surfactant from plating rinse **water**

prior to recycling. Kinetics of the sorption of AO-10, Co(II) and products of their interaction is controlled by the intraparticle diffusion in acidic (pH 5) and alkaline media (pH 8). With a decrease in the influent acidity from pH 5 to 8 the rate of intraparticle diffusion of AO-10 increases, although the equilibrium sorption decreases. The effect of Co(II) results in a decrease in the rate of intraparticle diffusion and equilibrium sorption of AO-10 at pH 5, although it leads to an increase in the corresponding parameters at pH 8. Unlike AO-10, the Co(II) equilibrium sorption increases on decreasing the influent acidity from pH 5 to 8. The effect of AO-10 results in an increase in the rate of the intraparticle diffusion and the equilibrium sorption of Co(II) at the 2 pH studied. The performance of the column, packed with the H form of Purolite C 106, is better with respect to AO-10 than that with respect to Co(II). The effect of AO-10 promotes the removal of Co(II), whereas the effect of Co(II) interferes with the removal of AO-10. The hydrogen form of Purolite C 106 cation exchanger is suggested to be applicable for the simultaneous and, therefore, economic removal of nonionic surfactant and Co(II) from Co plating rinse **water** prior to recycling, preventing the environmental contamination.

CC 60-2 (Waste Treatment and Disposal)
Section cross-reference(s): 61, 72

ST nonionic surfactant cobalt plating rinse **water**

IT Alcohols, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(C13-15, ethoxylated; integrated removal of nonionic surfactant and cobalt from plating rinse **water**)

IT Wastewater treatment
(cation exchange; integrated removal of nonionic surfactant and cobalt from plating rinse **water**)

IT Electrodeposition
(integrated removal of nonionic surfactant and cobalt from plating rinse **water**)

IT Surfactants
(nonionic; integrated removal of nonionic surfactant and cobalt from plating rinse **water**)

IT Wastewater treatment
(reclamation; integrated removal of nonionic surfactant and cobalt from plating rinse **water**)

IT Wastewater treatment
(sorption; integrated removal of nonionic surfactant and cobalt from plating rinse **water**)

IT 144046-63-9, Purolite C 106
RL: NUU (Other use, unclassified); USES (Uses)
(integrated removal of nonionic surfactant and cobalt from plating rinse **water**)

IT **7440-48-4**, Cobalt, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(integrated removal of nonionic surfactant and cobalt from plating rinse **water**)

IT **7440-48-4**, Cobalt, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(integrated removal of nonionic surfactant and cobalt from plating rinse **water**)

RN 7440-48-4 HCAPLUS

CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 10 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:1042048 HCAPLUS
DN 142:360526
TI Development of functionalized superparamagnetic iron oxide nanoparticles for interaction with human cancer cells
AU Petri-Fink, A.; Chastellain, M.; Juillerat-Jeanneret, L.; Ferrari, A.; Hofmann, H.
CS Department of Materials Science, Laboratory of Powder Technology, EPFL, Lausanne, CH-1015, Switz.
SO Biomaterials (2005), 26(15), 2685-2694
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Ltd.
DT Journal
LA English
AB Our goal is to develop, characterize and optimize functionalized super paramagnetic iron oxide nanoparticles (SPION) demonstrating the capacity to be internalized by human cancer cells. SPION (mean diameter 9 nm) were coated with various ratios to iron oxide of either polyvinyl alc. (PVA), carboxylate-functionalized PVA, **thiol**-functionalized PVA and amino-functionalized PVA (amino-PVA). The interaction with cells and cytotoxicity of the SPION prepns. were determined using human melanoma cells. From the four functionalized SPION prepns., only the amino-PVA SPION demonstrated the capacity to interact with, and were not cytotoxic to, human melanoma cells. This interaction with melanoma cells was dependent on the amino-PVA to iron oxide ratio, was an active and saturable mechanism displayed by all cells in a culture. These functionalized SPION were characterized by TEM and electrophoretic mobility. The phys. comportment of SPION changed at specific PVAs to iron oxide ratios, and this ratio corresponded to the ratio of optimal interaction with cells. In conclusion, the successful development of functionalized SPION displaying potential cellular uptake by human cancer cells depends both on the presence of amino groups on the coating shell of the nanoparticles and of its ratio to the amount of iron oxide.
CC 63-5 (Pharmaceuticals)
ST superparamagnetic iron oxide polyvinyl alc nanoparticle
IT Coating materials
Human
Size distributions
(development of functionalized superparamagnetic iron oxide nanoparticles for interaction with human cancer cells)
IT Drug delivery systems
(nanoparticles; development of functionalized superparamagnetic iron oxide nanoparticles for interaction with human cancer cells)
IT 1309-37-1, Iron oxide, biological studies 1317-61-9, Iron oxide, biological studies 9002-89-5, Mowiol **9002-89-5D**, Polyvinyl alcohol, carboxylated and/or **thiolated** 29499-22-7, Vinyl alcohol-vinyl amine copolymer
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(development of **functionalized** superparamagnetic iron oxide nanoparticles for interaction with human cancer cells)
IT **9002-89-5D**, Polyvinyl alcohol, carboxylated and/or **thiolated**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(development of **functionalized** superparamagnetic iron oxide

nanoparticles for interaction with human cancer cells)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

$H_2C{=}CH{-}OH$

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 11 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:412849 HCAPLUS
DN 140:402816
TI Sorbent material having a covalently attached perfluorinated surface with functional groups
IN Zubov, Vitali Pavlovich; Plobner, Lutz; Kapoustine, Dimitri Valerjewich; Balayan, Hamlet; Muydinov, Makhmud Rakhmotovich; Brem, Gottfried; Leiser, Robert-Matthias
PA Nexttec G.m.b.H., Germany
SO PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004041428	A2	20040521	WO 2003-EP12517	20031110
	WO 2004041428	A3	20040715		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1558376	A2	20050803	EP 2003-785640	20031110
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRAI	EP 2002-24885	A	20021108		
	US 2003-475785P	P	20030605		
	WO 2003-EP12517	W	20031110		

AB The present invention relates to a sorbent material having a solid support substantially modified with a fluorinated polymer coating which is covalently attached to the support and the fluorinated polymer coating is containing at least one functional group, methods of obtaining the sorbent material, the use of these materials for separation of substances, a chromatog. column or cartridge at least partially filled with the sorbent material of the invention, a membrane-like device comprising the sorbent material of the invention, a device comprising the sorbent material of the invention in loose form as well as a miniaturized device comprising the sorbent material.

IC ICM B01J020-00
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 3, 48, 80
ST sorbent covalent ceramer perfluorinated surface DNA purifn test kit; chromatog stationary phase porous hydrophobic fluoropolymer coating protein sepn
IT Silica gel, reactions
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(Na+ - stabilized; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Cell
(bacteria or tissues; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Pore size distribution
(bimodal or multi-modal; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Organic compounds, preparation
RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PYP (Physical process); PREP (Preparation); PROC (Process)
(biol., separation and purification of; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Bond
(carbon-carbon, bonds to "coated" ceramer; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Bond
(carbon-oxygen; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Containers
(cartridges, chromatog. column with sorbent of invention; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Fluoropolymers, preparation
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(coatings and homo- and co-polymer ceramers with porous supports; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Chromatographs
(columns; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Membranes, nonbiological
(composite, sorbent imbedded in; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Eubacteria
(cytolysis of, for DNA sequencing; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Pore size
(diameter and volume, tailored; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Alcohols, preparation
Ketones, preparation
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(fluorine-containing copolymers; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Monomers

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(fluoro; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Coating materials
(hydrophobic, onto silica; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Buffers
Test tubes
Vials
(in kit; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Gamma ray
(irradiation, radical initiation by; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Amides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(linear, surface functional groups on modified support; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Polyamides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(membrane with imbedded sorbent; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Reactors
(microreactors, containing sorbent of invention; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Porous materials
(monolithic membrane-type; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Thickness
(of polymer layer in pores, specified 1-25 nm; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Magnetic separation
(of sorbent particles; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Stability
(of sorbents against hydrolysis; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Porous materials
(particulate; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Polymerization kinetics
(photochem., radical, using γ-rays; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Glass, reactions
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(porous, macroporous, MPS 1150GCh; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Particles
(porous; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT UV radiation
X-ray
(radical initiation by; sorbent material having covalently attached

fluorinated or perfluorinated surface with functional groups)
IT Silica gel, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(reaction products; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Glass, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(reactor vessel; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Acrylic polymers, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(silicate-; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Ceramers
Chromatographic stationary phases
Functional groups
Preparative liquid chromatography
Sorbents
Test kits
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Proteins
RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PYP (Physical process); REM (Removal or disposal); PREP (Preparation); PROC (Process)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Alkenes, reactions
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Salts, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); REM (Removal or disposal); PROC (Process)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Nucleic acids
RL: PUR (Purification or recovery); PREP (Preparation)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Oxides (inorganic), reactions
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(sorbent support; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Amino group
Carboxyl group
Hydroxyl group
(surface functional groups on modified support; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT Bromides, uses
Lactams
RL: TEM (Technical or engineered material use); USES (Uses)
(surface functional groups on modified support; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
IT DNA

RL: PUR (Purification or recovery); PREP (Preparation)
(test kit for purification; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Cytolysis
(test kit for; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Drying
(to **remove water** and/or solvents; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT Lab-on-a-chip
(with sorbent of invention; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 9002-88-4, Polyethylene **9003-01-4D**, Polyacrylic acid, derivs. and copolymers 9003-53-6, Polystyrene **25087-26-7D**, Polymethacrylic acid, derivs. and copolymers
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(crosslinked, sorbent support; sorbent material having covalently attached fluorinated or perfluorinated surface with **functional** groups)

IT 183863-24-3, Molybdenum **silicon** oxide
RL: ANT (Analyte); FMU (Formation, unclassified); ANST (Analytical study); FORM (Formation, nonpreparative)
(formed in hydrolytic stability test; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 9001-63-2, Lysozyme 9001-99-4, RNase
RL: CAT (Catalyst use); USES (Uses)
(in test kit; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 60676-86-0, Vitreous silica
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(porous, GPB-Trisopor 500; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 10028-15-6, Ozone, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(radical initiation by; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 7439-89-6, Iron, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(reactor vessel; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 11098-84-3, Ammonium molybdate 12680-49-8, Sodium molybdate
RL: ARU (Analytical role, unclassified); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 77-86-1, Tris
RL: MOA (Modifier or additive use); USES (Uses)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 67-64-1, Acetone, reactions
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 7631-86-9P, Silica,, preparation 689286-08-6P 689286-11-1P
689292-98-6P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 116-14-3, Tetrafluoroethene, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); REM (Removal or disposal); PROC (Process)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 689286-05-3P 689286-07-5P 689286-09-7P 689286-12-2P 689286-14-4P
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 67-56-1, Methanol, reactions 67-63-0, Isopropanol, reactions 88-12-0, reactions 97-05-2, Sulfosalicylic acid 106-95-6, Allyl bromide, reactions 107-02-8, Acrolein, reactions 116-15-4, Hexafluoropropene 124-02-7, Diallylamine 868-77-9, 2-Hydroxyethylmethacrylate 2235-00-9, N-Vinylcaprolactam 7664-93-9, Sulfuric acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 689286-00-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 689286-02-0P 689286-03-1P 689286-04-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

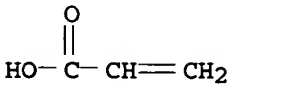
IT 1314-23-4, Zirconium oxide, reactions 1332-37-2, Iron oxide, reactions 1344-28-1, Aluminum oxide, reactions 7631-86-9D, Silica, nonstoichiometric 13463-67-7, Titanium oxide, reactions
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(sorbent support; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT **9003-01-4D**, Polyacrylic acid, derivs. and copolymers
25087-26-7D, Polymethacrylic acid, derivs. and copolymers
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(crosslinked, sorbent support; sorbent material having covalently attached fluorinated or perfluorinated surface with **functional** groups)

RN 9003-01-4 HCAPLUS
CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

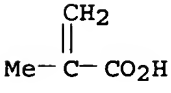
CRN 79-10-7
CMF C3 H4 O2



RN 25087-26-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-41-4
CMF C4 H6 O2



L58 ANSWER 12 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:314392 HCAPLUS
DN 140:411572
TI Lead Extraction from Contaminated Soil Using **Water**-Soluble Polymers
AU Sauer, Nancy N.; Ehler, Deborah S.; Duran, Brandy L.
CS Chemistry Division, Los Alamos National Laboratory, Los Alamos, NM, 87545, USA
SO Journal of Environmental Engineering (Reston, VA, United States) (2004), 130(5), 585-588
CODEN: JOEEDU; ISSN: 0733-9372
PB American Society of Civil Engineers
DT Journal
LA English
AB The applicability of **water**-soluble polymers as extractants for the remediation of heavy metal-contaminated soils was explored using a Pb-contaminated Superfund soil as a sample system. **Polyethylenimine** (PEI) was **functionalized** with bromo- or chloroacetic acid to give an aminocarboxylate chelating group, which effectively binds Pb. The resulting polymer, PEIC, has extraction properties similar to the mol. chelator EDTA. A series of studies was done to probe optimum conditions for Pb extraction from soils obtained from the Cal-West Superfund site in New Mexico that contained .apprx.10,000 ppm of Pb. In batch extraction expts. using polymer functionalized at 2 different levels, the polymers removed >97% of the Pb from the soils. Subsequent expts. demonstrated that the selective extraction of Pb could be controlled by varying polymer functionalization levels. Concentration and regeneration of the polymers using ultrafiltration was demonstrated. Release of Pb from the polymer was accomplished by acidification to pH 1 with HCl. Subsequent ultrafiltration allowed recovery of the extractant polymer for reuse.
CC 60-4 (Waste Treatment and Disposal)
Section cross-reference(s): 19
ST lead extn contaminated soil **water** soluble polymer
IT Soil reclamation
(lead extraction from contaminated soil using **water**-soluble polymers)
IT Polymers, uses
RL: NUU (Other use, unclassified); USES (Uses)
(lead extraction from contaminated soil using **water**-soluble polymers)
IT Heavy metals

RL: **REM (Removal or disposal)**; PROC (Process)
(lead extraction from contaminated soil using **water**-soluble polymers)
IT Wastewater treatment
(ultrafiltration; lead extraction from contaminated soil using **water**-soluble polymers)
IT 9002-98-6P, **Polyethylenimine**
RL: NUU (Other use, unclassified); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(**functionalized** with bromo- and chloroacetic acid; lead extraction from contaminated soil using **water**-soluble polymers)
IT **7439-92-1**, Lead, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(lead extraction from contaminated soil using **water**-soluble polymers)
IT 79-08-3, Bromoacetic acid 79-11-8, Chloroacetic acid, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**polyethylenimine functionalized** with bromo- and chloroacetic acid; lead extraction from contaminated soil using **water**-soluble polymers)
IT **7439-92-1**, Lead, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(lead extraction from contaminated soil using **water**-soluble polymers)
RN 7439-92-1 HCAPLUS
CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 13 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:382536 HCAPLUS
DN 139:184784
TI Kinetic behaviour of Duolite ES 468 in the Co-sorption of non-ionic surfactant and copper(II)
AU Kauspediene, D.; Snukiskis, J.; Gefeniene, A.
CS Department of Ecological Chemistry, Institute of Chemistry, Vilnius, 2600, Lithuania
SO Journal of Hazardous Materials (2003), 99(3), 313-319
CODEN: JHMAD9; ISSN: 0304-3894
PB Elsevier Science B.V.
DT Journal
LA English
AB Kinetic behavior of the hydrogen form of Duolite ES 468 **polyacrylic acid-functionalised** cation exchanger with respect to the sorption of non-ionic surfactant alkylmonoethers (ALM-10) and copper(II) has been investigated; kinetic curves have been obtained, using spectrophotometric determination for ALM-10 and complexometric one for copper(II). Kinetic coefficient (B), intraparticle diffusion coefficient (D; m2 s-1) and overall rate constant (ko; s-1) for non-ionic surfactant and copper(II) depend on the solution composition, pH and the maximum sorption at the equilibrium On increasing the solution acidity from pH 5 to pH 3 a decrease in both D and the equilibrium sorption for copper(II) although an increase in D for ALM-10 is observed The action of copper(II) results in an increase in both D for ALM-10 and the maximum sorption at the equilibrium, whereas the action of ALM-10 leads to a decrease in the corresponding parameters for copper(II). Hydrogen form of Duolite ES 468 **polyacrylic acid-functionalised** cation exchanger is suitable for the simultaneous removal of non-ionic surfactant

and copper(II) from waste **water.**
CC 60-3 (Waste Treatment and Disposal)
Section cross-reference(s): 46
ST cation exchanger kinetics sorption nonionic surfactant copper removal wastewater; **polyacrylic acid functionalised** cation exchanger nonionic surfactant copper wastewater
IT Alcohols, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); **REM (Removal or disposal)**; PROC (Process)
(C12-14, ethoxylated; kinetic behavior of Duolite ES 468 in the co-sorption of nonionic surfactant and copper from wastewater)
IT Wastewater treatment
(ion exchange; kinetic behavior of Duolite ES 468 in the co-sorption of nonionic surfactant and copper from wastewater)
IT Chemisorption kinetics
(kinetic behavior of Duolite ES 468 in the co-sorption of nonionic surfactant and copper from wastewater)
IT Wastewater treatment
(sorption; kinetic behavior of Duolite ES 468 in the co-sorption of nonionic surfactant and copper from wastewater)
IT 128003-84-9, Duolite ES 468
RL: NUU (Other use, unclassified); USES (Uses)
(kinetic behavior of Duolite ES 468 in the co-sorption of nonionic surfactant and copper from wastewater)
IT **7440-50-8**, Copper, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); **REM (Removal or disposal)**; PROC (Process)
(kinetic behavior of Duolite ES 468 in the co-sorption of nonionic surfactant and copper from wastewater)
IT **7440-50-8**, Copper, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); **REM (Removal or disposal)**; PROC (Process)
(kinetic behavior of Duolite ES 468 in the co-sorption of nonionic surfactant and copper from wastewater)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 14 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:304681 HCAPLUS
DN 139:198111
TI Synthesis and metal ion complexation properties of a novel polyethyleneimine N-methylhydroxamic acid **water** soluble polymer
AU Bisset, Wendy; Jacobs, Hollie; Koshti, Nirmal; Stark, Peter; Gopalan, Aravamudan
CS MSC 3C, Department of Chemistry and Biochemistry, New Mexico State University, Las Cruces, NM, 88003-8001, USA
SO Reactive & Functional Polymers (2003), 55(2), 109-119
CODEN: RFPOF6; ISSN: 1381-5148
PB Elsevier Science B.V.
DT Journal
LA English
AB A new **water**-soluble polyethyleneimine polymer that incorporates N-methylhydroxamic acid chelating groups is synthesized as part of a

program to develop **water**-soluble chelating polymers for the selective separation of trivalent cations such as iron(III) and tetravalent **actinide** ions such as Th(IV) or Pu(IV) from **aqueous**, radioactive waste streams. Both the synthesis of this chelating polymer, PEI-NMH, and its ability to achieve selective **separation** of target **metal** ions using ultrafiltration are discussed. The PEI-NMH polymer selectively binds iron(III) over thorium(IV) at pH 1 in contrast to its primary hydroxamate analog PEI-H. The binding properties of these polymers were evaluated using both potentiometric and spectrophotometric methods. A comparison of the binding properties of PEI-NMH and PEI-H reveals the importance of the nature of the ligand in the complexation process.

CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 71

ST polyethyleneimine methylhydroxamate complexation metal ion radioactive waste

IT Radioactive wastes
(liquid; synthesis and metal ion complexation properties of **water**-soluble N-methylhydroxamate-functionalized polyethyleneimine for possible use in selective **separation** of **metal** ions from radioactive waste streams using ultrafiltration)

IT Polyamines
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(methylhydroxamic acid derivs.; synthesis and metal ion complexation properties of **water**-soluble N-methylhydroxamate-functionalized polyethyleneimine for possible use in selective **separation** of **metal** ions from radioactive waste streams)

IT Chelating agents
Ultrafiltration
(synthesis and metal ion complexation properties of **water**-soluble N-methylhydroxamate-functionalized polyethyleneimine for possible use in selective **separation** of **metal** ions from radioactive waste streams using ultrafiltration)

IT **Actinides**
Rare earth metals, preparation
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and metal ion complexation properties of **water**-soluble N-methylhydroxamate-functionalized polyethyleneimine for possible use in selective **separation** of **metal** ions from radioactive waste streams using ultrafiltration)

IT 7429-90-5, Aluminum, processes 7439-89-6, Iron, processes 7440-00-8, Neodymium, processes **7440-02-0**, **Nickel**, processes 7440-24-6, Strontium, processes 7440-29-1, Thorium, processes **7440-50-8**, **Copper**, processes **7440-53-1**, Europium, processes
RL: PEP (Physical, engineering or chemical process); POL (Pollutant); PYP (Physical process); **REM (Removal or disposal)**; OCCU (Occurrence); PROC (Process)
(chelation/retention of; by **water**-soluble N-methylhydroxamate-functionalized polyethyleneimine for possible use in selective **separation** of **metal** ions from radioactive waste streams using ultrafiltration)

IT **26913-06-4DP**, Poly[imino(1,2-ethanediyl)], reaction products with [[(dimethylethyl)diphenylsilyl]oxy]propenamide, hydrolyzed 157614-54-5DP, reaction products with polyethyleneimine, hydrolyzed
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and metal ion complexation properties of **water**

-soluble N-methylhydroxamate-**functionalized** polyethyleneimine for possible use in selective **separation** of **metal** ions from radioactive waste streams using ultrafiltration)

IT **7440-02-0, Nickel**, processes **7440-50-8, Copper**, processes **7440-53-1**, Europium, processes
RL: PEP (Physical, engineering or chemical process); POL (Pollutant); PYP (Physical process); **REM (Removal or disposal)**; OCCU (Occurrence); PROC (Process)
(chelation/retention of; by **water**-soluble N-methylhydroxamate-functionalized polyethyleneimine for possible use in selective **separation** of **metal** ions from radioactive waste streams using ultrafiltration)

RN 7440-02-0 HCAPLUS
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

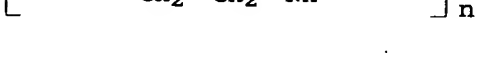
Cu

RN 7440-53-1 HCAPLUS
CN Europium (8CI, 9CI) (CA INDEX NAME)

Eu

IT **26913-06-4DP**, Poly[imino(1,2-ethanediyl)], reaction products with [[(dimethylethyl)diphenylsilyl]oxy]propenamide, hydrolyzed
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and metal ion complexation properties of **water**-soluble N-methylhydroxamate-**functionalized** polyethyleneimine for possible use in selective **separation** of **metal** ions from radioactive waste streams using ultrafiltration)

RN 26913-06-4 HCAPLUS
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 15 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:409281 HCAPLUS
DN 136:402561
TI Inhibiting scale formation using water-soluble polymers having pendant derivatized amide functionalities and polymer manufacture
IN Carter, Phillip W.; Morris, John D.; Reed, Peter E.; Tang, Jiansheng; Wang, Jin-shan; Young, Paul R.
PA USA

SO U.S. Pat. Appl. Publ., 11 pp., Cont.-in-part of U. S. 6,017,994.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002065358	A1	20020530	US 1999-333384	19990615
	US 5726267	A	19980310	US 1997-792610	19970131
	US 6017994	A	20000125	US 1997-884154	19970627
PRAI	US 1997-792610	A2	19970131		
	US 1997-884154	A2	19970627		

AB Inhibiting scale formation in industrial H2O comprises adding an effective amount of a water-soluble polymer having pendant amide functionalities.

IC ICM C08K003-00
INCL 524555000
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): **61**
ST water soluble polymer scale control; ammonium acrylate copolymer scale control; hydroxyethoxy acrylamide copolymer scale control
IT Silt
(scale; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT Clays, miscellaneous
RL: MSC (Miscellaneous)
(scale; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT Cooling water
Scale inhibitors
(water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT Polymers, preparation
RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)
(water-soluble; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT 471-34-1, Calcium carbonate, miscellaneous 546-93-0, Magnesium carbonate 1309-33-7, Iron hydroxide (Fe(OH)3) 7727-43-7, Barium sulfate 7757-86-0, Phosphoric acid, magnesium salt (1:1) 7757-93-9, Phosphoric acid, calcium salt (1:1) 7778-18-9, Calcium sulfate 7779-90-0, Zinc phosphate 21645-51-2, Aluminum hydroxide, miscellaneous
RL: MSC (Miscellaneous)
(scale; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT 111-41-1DP, Ethanol, 2-[(2-aminoethyl)amino]-, reaction products with acrylamide-sodium acrylate copolymer 141-43-5DP, reaction products with acrylamide-acrylic acid copolymer 929-06-6DP, Ethanol, 2-(2-aminoethoxy)-, reaction products with poly(acrylic acid) 1336-21-6DP, Ammonium Hydroxide, reaction products with poly(acrylic acid) **9003-01-4DP**, Poly(acrylic acid), reaction products with aminoethoxyethanol and ammonium hydroxide 9003-05-8DP, Polyacrylamide, reaction products with aminoethoxyethanol 9003-06-9DP, Acrylamide-acrylic acid copolymer, reaction products with aminoethoxyethanol 25085-02-3DP, Acrylamide-sodium acrylate copolymer, reaction products with aminoethoxyethanol 26100-47-0DP, Acrylamide-ammonium acrylate copolymer, reaction products with aminoethoxyethanol 34447-10-4DP, 1-Propanamine, methoxy-, reaction products with acrylamide-sodium acrylate copolymer 83713-01-3DP, Jeffamine M 1000, reaction products with acrylamide-sodium acrylate copolymer

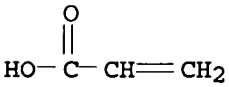
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-soluble polymers having pendant derivatized amide **functionalities** for scale control)

IT **9003-01-4DP**, Poly(acrylic acid), reaction products with aminoethoxyethanol and ammonium hydroxide
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-soluble polymers having pendant derivatized amide **functionalities** for scale control)

RN 9003-01-4 HCAPLUS
CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
CMF C3 H4 O2



L58 ANSWER 16 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:266443 HCAPLUS
DN 137:67396
TI Combined sorption of cobalt(II) and nonionic surfactant by **polyacrylic acid-functionalized** cation exchanger
AU Snukiskis, Julius; Kauspediene, Danute
CS Institute of Chemistry, Vilnius, 2600, Lithuania
SO Separation Science and Technology (2002), 37(4), 921-936
CODEN: SSTEDS; ISSN: 0149-6395
PB Marcel Dekker, Inc.
DT Journal
LA English
AB The kinetics of combined sorption of Co2+ and nonionic surfactant, ALM-10, by the H-form of Purolite C 106 **polyacrylic acid-functionalized** cation exchanger were studied. Kinetic curves were obtained to spectrophotometrically determine nonionic surfactant concns., and complexometrically determine Co2+ concns. Reducing initial solution acidity from pH 5 to 8, coeffs. of intraparticle diffusion (D) for Co2+ increased, although they decreased as cation exchanger saturation increased. Surfactant sorption was slower than Co2+ sorption. Cation exchanger regeneration was performed using 0.7 M HCl to remove Co2+, 0.5 M NaOH to remove the surfactant, and 0.7 M HCl to convert the ion exchanger to the H-form. H-form of Purolite C 106 can be used to simultaneously remove nonionic surfactant and Co2+ from electroplating rinse wastewater to recover **water** for recycling.
CC 60-3 (Waste Treatment and Disposal)
Section cross-reference(s): 46, 61, 67, 72
ST electroplating wastewater treatment surfactant cobalt ion exchange; adsorption cobalt Purolite C106 **polyacrylic acid functionalized** cation exchanger; **water** recycling electroplating wastewater treatment; kinetics sorptive removal cobalt nonionic surfactant electroplating wastewater; intraparticle diffusion cobalt nonionic surfactant removal ion exchange
IT Alcohols, processes

RL: PEP (Physical, engineering or chemical process); POL (Pollutant); PYP (Physical process); **REM (Removal or disposal)**; OCCU (Occurrence); PROC (Process)
(C12-14, ethoxylated, nonionic surfactant; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT Wastewater treatment
(adsorption; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT Diffusion
(intraparticle; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT Wastewater treatment
(ion exchange; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT Surfactants
(nonionic; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT Adsorption
(pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT Cation exchangers
(**polyacrylic acid functionalized**; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT Electrodeposition
(wastewater from; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT 144046-63-9, Purolite C 106
RL: NUU (Other use, unclassified); USES (Uses)
(H-form; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT 1310-73-2, Sodium hydroxide, uses 7647-01-0, Hydrochloric acid, uses
RL: NUU (Other use, unclassified); USES (Uses)
(ion exchanger regeneration with; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT **7440-48-4**, Cobalt, processes
RL: PEP (Physical, engineering or chemical process); POL (Pollutant); PYP (Physical process); **REM (Removal or disposal)**; OCCU

(Occurrence); PROC (Process)
(pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT 7732-18-5P, **Water**, processes
RL: PEP (Physical, engineering or chemical process); **PUR (Purification or recovery)**; PYP (Physical process); PREP (Preparation); PROC (Process)
(recycling of; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT **7440-48-4**, Cobalt, processes
RL: PEP (Physical, engineering or chemical process); POL (Pollutant); PYP (Physical process); **REM (Removal or disposal)**; OCCU (Occurrence); PROC (Process)
(pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

RN 7440-48-4 HCAPLUS
CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 17 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:151610 HCAPLUS
DN 136:169061
TI Barrier coatings based on silylated amino functional polymers for use on packaging films and various articles
IN Merlin, Patrick
PA Dow Corning SA, Belg.
SO Brit. UK Pat. Appl., 28 pp.
CODEN: BAXXDU
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2360525	A1	20010926	GB 2000-7138	20000324
PRAI	GB 2000-7138		20000324		

AB The coatings are obtained by reacting an amino functional organic polymer, e.g., polyethyleneimine with a reactive silane. Thus, a 25% solids solution was prepared by dissolving 40 g of Epomin SP 110 (polyethyleneimine) in 143 g of HPLC grade i-PrOH, combined with 10 g of chloropropyltrimethoxysilane and heated to reflux for 24 h to complete reaction. The resulting solution was neutralized with 9 g of 30% NaOH solution in MeOH, filtered, coated onto an LDPE film and cured to give a coat layer for reducing gas permeation.

IC ICM C09D179-02
CC 42-10 (Coatings, Inks, and Related Products)
ST silylated amino functional polymer barrier coating packaging film
IT Packaging materials
(films; barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)

IT Coating materials
(gas-impermeable; barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)
IT Packaging materials
(laminated films; barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)
IT Polyamines
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(silylated products; barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)
IT 2530-83-8DP, 3-Glycidoxypropyltrimethoxysilane, amino functional polymers modified with 2530-85-0DP, 3-Methacryloxypropyltrimethoxysilane, amino functional polymers modified with 3388-04-3DP, A 186, amino functional polymers modified with **9002-98-6DP**, silylated products 13732-00-8DP, 3-Acryloxypropylmethyldimethoxysilane, amino functional polymers modified with 25512-39-4DP, Chloropropyltrimethoxysilane, amino functional polymers modified with
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(barrier coatings based on silylated amino **functional** polymers for use on packaging films and various articles)
IT 106-91-2, Glycidyl methacrylate 2425-79-8 13048-33-4, 1,6-**Hexanediol** diacrylate
RL: MOA (Modifier or additive use); USES (Uses)
(crosslinker for coating; barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)
IT 9002-88-4, Polyethylene
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(films or laminates; barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)
IT **9002-98-6DP**, silylated products
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(barrier coatings based on silylated amino **functional** polymers for use on packaging films and various articles)
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

L58 ANSWER 18 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:581946 HCAPLUS
DN 135:167189
TI Alkali-resistant, absorbent coatings
IN Mueller, Egbert; Seiler, Anja; Poguntke, Peter
PA Merck Patent G.m.b.H., Germany
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2

DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001057098	A1	20010809	WO 2001-EP606	20010119
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	DE 10004565	A1	20010809	DE 2000-10004565	20000202
	EP 1263806	A1	20021211	EP 2001-907471	20010119
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRAI	DE 2000-10004565	A	20000202		
	WO 2001-EP606	W	20010119		

AB The title coatings, useful in the purification of biopolymers owing to their protein-binding capacity (no data), are prepared by the reaction of specified functional compds. with glycidylalkyl alkenoate polymers of specified structure. A chromatog. column was packed with bundles of 64 nylon fibers (length 30 cm, inner diameter 200 μm, outer diameter 2 mm, average pore diameter 1-2 μm, surface 97 cm2), a solution of 10 g glycidyl methacrylate (I), 40 mL dioxane, 160 mL H2O, and 17.5 g 32% NaOH was pumped over the column at 3 mL/min, the column was rinsed, a solution of 15 g I and 1 g AIBN in 200 mL PhMe was pumped over the column at 100° and 7 mL/min, the column was rinsed, 200 mL 50% aqueous Et2NH was pumped over the column at room temperature for 6 h, and the column was rinsed with H2O, treated with 1M ethanolamine at 40° for 3 h, and eluted with phosphate buffer (pH 7). The alkali stability of the column is exemplified.

IC ICM C08F008-30
ICS C08F008-34
CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 9
ST coating absorbent alkali resistant; biopolymer sepn chromatog coating; nylon fiber modified absorbent; glycidyl methacrylate copolymer nylon modified
IT Absorbents
(alkali-resistant, absorbent coatings)
IT Liquid chromatography
(alkali-resistant, absorbent coatings for use in chromatog. separation)
IT Alcohols, preparation
Thiols (organic), preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(amino, reaction products with glycidyl group-containing polymers; alkali-resistant, absorbent coatings)
IT Polyamide fibers, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(reaction products and copolymers with glycidyl methacrylate; alkali-resistant, absorbent coatings)
IT Amines, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(reaction products with glycidyl group-containing polymers; alkali-resistant, absorbent coatings)
IT Amines, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**thiol**, reaction products with glycidyl group-containing polymers; alkali-resistant, absorbent coatings)
IT 106-91-2DP, Glycidyl methacrylate, reaction products with nylon fibers, copolymers with glycidyl methacrylate 109-89-7DP, Diethylamine, reaction products with glycidyl methacrylate-modified nylon fibers
9002-89-5DP, glycidyl derivs., **functionalized**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(alkali-resistant, absorbent coatings)
IT **9002-89-5DP**, glycidyl derivs., **functionalized**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(alkali-resistant, absorbent coatings)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

$H_2C{=}CH{-}OH$

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 19 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:580488 HCAPLUS
DN 135:289506
TI Thermophysical property modifications in functional polymers via **lanthanide** trichloride hydrates
AU Belfiore, Laurence A.; Ruzmaikina, Izolda Y.; Das, Pronab K.
CS Polymer Physics & Engineering Laboratory Department of Chemical Engineering, Colorado State University, Fort Collins, CO, 80523, USA
SO Polymer Engineering and Science (2001), 41(7), 1196-1205
CODEN: PYESAZ; ISSN: 0032-3888
PB Society of Plastics Engineers
DT Journal
LA English
AB Fourteen **water**-soluble trivalent metal chlorides from lanthanum to lutetium in the 1st-row of the f-block form complexes with poly(vinyl amine) and increase the glass transition temperature from 57°C to well above 100°C at very low molar concns. of the **lanthanide.** The large ionic radii of these hard-acid cations allow several hard-base amino side groups in the polymer to occupy sites in the first shell coordination sphere via ion-dipole (i.e., electrostatic) interactions, which leads to micro clustering of the ligands about a single metal center. The enhancement in the glass transition temperature is explained in terms of multi-functional coordination crosslinking, f-Block salts induce larger increases in Tg, relative to transition metal-complexes from the d-block, however CoCl2(**H2O**)6 performs comparably to some of the more efficient **lanthanides.** Blends of poly(vinyl amine) and trimethoxy silyl-Pr poly(ethylene imine)hydrochloride form complexes with

europium(III) and exhibit synergistic single Tg response. Since **lanthanides** form very stable complexes with chelating (i.e., bidentate) oxygen ligands, it is possible to increase the elastic modulus of com. important copolymers of ethylene and methacrylic acid via Eu3+ complexation with the carboxylate anion. This claim is verified by IR spectroscopy. Temperature and pH-sensitive applications for drug delivery and **removal** of contaminants from wastewater streams should increase the utility of these **lanthanide** complexes.

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 68, 78

ST **lanthanide** complex polyvinylamine polyethyleneimine glass transition temp stress fracture

IT Stress, mechanical
(fracture; thermophys. property modifications in functional polymers via **lanthanide** trichloride hydrates)

IT Polyamines
Polyphosphazenes
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(**lanthanides** and heavy metal complexes; thermophys. property modifications in functional polymers via **lanthanide** trichloride hydrates)

IT Breaking strength
Glass transition temperature
Stress-strain relationship
Young's modulus
(thermophys. property modifications in functional polymers via **lanthanide** trichloride hydrates)

IT Rare earth complexes
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(thermophys. property modifications in functional polymers via **lanthanide** trichloride hydrates)

IT Stress, mechanical
(yield; thermophys. property modifications in functional polymers via **lanthanide** trichloride hydrates)

IT 72018-12-3D, Poly(vinylformamide), hydrolyzed, complexes with **lanthanides** and heavy metals
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(thermophys. property modifications in functional polymers via **lanthanide** trichloride hydrates)

IT 2530-87-2DP, (3-Chloropropyl)trimethoxysilane, reaction product with poly(ethylene imine), europium complex 7429-91-6DP, Dysprosium, complexes with poly(vinyl amine), preparation 7439-91-0DP, Lanthanum, complexes with poly(vinyl amine), preparation 7439-94-3DP, Lutecium, complexes with poly(vinyl amine) 7440-00-8DP, Neodymium, complexes with poly(vinyl amine), preparation **7440-02-0DP**, **Nickel**, complexes with poly(vinyl amine), preparation 7440-10-0DP, Praseodymium, complexes with poly(vinyl amine), preparation 7440-18-8DP, Ruthenium, complexes with poly(vinyl amine), preparation 7440-19-9DP, Samarium, complexes with poly(vinyl amine), preparation 7440-27-9DP, Terbium, complexes with poly(vinyl amine), preparation 7440-30-4DP, Thulium, complexes with poly(vinyl amine), preparation 7440-45-1DP, Cerium, complexes with poly(vinyl amine), preparation **7440-48-4DP**, **Cobalt**, complexes with poly(vinyl amine), preparation 7440-52-0DP, Erbium, complexes with poly(vinyl amine), preparation **7440-53-1DP**, Europium, complexes with poly(vinyl amine), preparation 7440-54-2DP, Gadolinium, complexes with poly(vinyl amine), preparation 7440-60-0DP, Holmium, complexes with poly(vinyl amine), preparation 7440-64-4DP, Ytterbium, complexes with poly(vinyl amine), preparation **9002-98-6DP**, europium complex 9003-05-8DP,

Polyacrylamide, europium complex 9003-39-8DP, Poly(vinylpyrrolidone), europium complex 25053-53-6DP, Ethylene-methacrylic acid copolymer, europium complex 25231-98-5DP, Hexachlorocyclotriphosphazene homopolymer, phenol-substituted, europium complex 25232-41-1DP, Poly(4-vinylpyridine), europium complex 25805-17-8DP, Poly(2-ethyl-2-oxazoline), europium complex 26085-02-9DP, Polydichlorophosphazene, phenol-substituted, europium complex **26913-06-4DP**, Poly[imino(1,2-ethanediyl)], reaction product with (3-chloro propyl)trimethoxy silane, europium complex
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(thermophys. property modifications in **functional** polymers via **lanthanide** trichloride hydrates)

IT **7440-02-0DP**, **Nickel**, complexes with poly(vinyl amine), preparation **7440-48-4DP**, **Cobalt**, complexes with poly(vinyl amine), preparation **7440-53-1DP**, Europium, complexes with poly(vinyl amine), preparation **9002-98-6DP**, europium complex **26913-06-4DP**, Poly[imino(1,2-ethanediyl)], reaction product with (3-chloro propyl)trimethoxy silane, europium complex
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(thermophys. property modifications in **functional** polymers via **lanthanide** trichloride hydrates)

RN 7440-02-0 HCAPLUS
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-48-4 HCAPLUS
CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RN 7440-53-1 HCAPLUS
CN Europium (8CI, 9CI) (CA INDEX NAME)

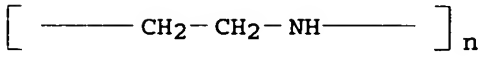
Eu

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

RN 26913-06-4 HCAPLUS
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 20 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:559471 HCAPLUS
DN 135:138136
TI Procedure for the production of functionalized polyurethane foams
IN Arlt, Andreas; Becker, Armin; Treuling, Ulrich; Riegel, Willi
PA Basf A.-G., Germany
SO Ger. Offen., 16 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 10003157	A1	20010802	DE 2000-10003157	20000126
PRAI DE 2000-10003157		20000126		

AB Invention concerns procedures for production of functionalized polyurethane foams with adsorption properties, whereby isocyanates are reacted with compds. having ≥2 NCO-reactive hydrogen atoms as well as ≥1 of compound (i), having ≥1 of (ia) hydroxyl group, amino group and/or **thiol** group and addnl. ≥1 of (ib) halogen and/or a carbonyl group, an ester group, an anhydride group, an epoxy group, a carboxyl group and/or a sultone group, and reacting the resulting foams with (ii) compds. that are reactive with the (ib) groups. A typical functionalized polyurethane foam with Cu adsorption properties was manufactured by mixing 250 g mixture containing Lupranol 2047 87, Lupranol 3402 8, Lupranol 2040 5, **water** 3.2, Lupragen N 201 0.15, Lupragen N 206 0.1, hydroxyethyl acrylate 5, and Tegostab B 8418 0.5 parts with 169 g mixture containing 25 parts Lupranat M 20W and 75 parts Lupranat B 620/1 and then treating the resulting foam with a 1% soln of Lupasol WF (polyethylenimine).
IC ICM C08G018-83
ICS C08L075-04; C08L079-02; C07K017-06; C07K017-08; C12N011-06; C12N011-08; B01J020-26
CC 37-3 (Plastics Manufacture and Processing)
ST polyurethane foam functionalized manuf adsorbent; polyoxyalkylene polyamine polyurethane hydroxyethyl acrylate polyethylenimine adduct copper adsorbent
IT Catalysts
(bio-; production of functionalized polyurethane foams with adsorption properties for biocatalysts)
IT Halides
RL: IMF (Industrial manufacture); PREP (Preparation)
(organic, reaction products, with polyurethanes; production of functionalized polyurethane foams with adsorption properties for biocatalysts)
IT Polyamines
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyamide-, reaction products, with functionalized polyurethanes; production of functionalized polyurethane foams with adsorption properties)
IT Polyamides, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyamine-, reaction products, with functionalized polyurethanes; production of functionalized polyurethane foams with adsorption properties)
IT Polyurethanes, preparation
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

(polyamine-polyoxyalkylene-; production of functionalized polyurethane foams with adsorption properties)
IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(polyamine-polyurethane-; production of functionalized polyurethane foams with adsorption properties)
IT Polyurethanes, preparation
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(polyoxyalkylene-; production of functionalized polyurethane foams with adsorption properties)
IT Polyamines
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(polyoxyalkylene-polyurethane-; production of functionalized polyurethane foams with adsorption properties)
IT Adsorbents
Filters
(production of functionalized polyurethane foams with adsorption properties)
IT Plastic foams
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(production of functionalized polyurethane foams with adsorption properties)
IT Acids, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(production of functionalized polyurethane foams with adsorption properties)
IT Aldehydes, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(production of functionalized polyurethane foams with adsorption properties)
IT Heavy metals
RL: **REM (Removal or disposal)**; PROC (Process)
(production of functionalized polyurethane foams with adsorption properties)
IT Disinfectants
Dyes
Perfumes
(reaction products, with functionalized polyurethanes; production of functionalized polyurethane foams with adsorption properties)
IT Aldehydes, preparation
Carboxylic acids, preparation
Epoxides
Esters, preparation
Ketones, preparation
Polyamines
RL: IMF (Industrial manufacture); PREP (Preparation)
(reaction products, with polyurethanes; production of functionalized polyurethane foams with adsorption properties for biocatalysts)
IT Polyurethanes, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(reaction products; production of functionalized polyurethane foams with adsorption properties)
IT Lactones
RL: IMF (Industrial manufacture); PREP (Preparation)
(sultones, reaction products, with polyurethanes; production of functionalized polyurethane foams with adsorption properties for biocatalysts)
IT 75-55-8DP, Propylenimine, reaction products with functionalized polyurethanes 110-86-1DP, Pyridine, reaction products with functionalized polyurethanes, preparation 151-56-4DP, Ethylenimine,

reaction products with functionalized polyurethanes 288-32-4DP, Imidazole, reaction products with functionalized polyurethanes 25037-42-7DP, Polypropylenimine, reaction products with functionalized polyurethanes 26336-38-9DP, **Polyvinylamine**, reaction products with **functionalized** polyurethanes 32290-92-9DP, Polypropylenimine, reaction products with functionalized polyurethanes
RL: IMF (Industrial manufacture); PREP (Preparation)
(production of functionalized polyurethane foams with adsorption properties)

IT 89-97-4DP, 2-Chlorobenzylamine, reaction products with polyurethanes and reactive compds. 120-47-8DP, Ethyl 4-hydroxybenzoate, reaction products with polyurethanes and reactive compds. 121-33-5DP, Vanillin, reaction products with polyurethanes and reactive compds. 122-34-9DP, 2-Chloro-4,6-bis(ethylamino)-1,3,5-triazine, reaction products with polyurethanes and reactive compds. 141-22-0DP, Ricinoleic acid, reaction products with polyurethanes and reactive compds. 477-73-6DP, Safranin O, reaction products with functionalized polyurethanes 556-52-5DP, Oxiranemethanol, reaction products with polyurethanes and reactive compds. 586-95-8DP, 4-Hydroxymethylpyridine, reaction products with functionalized polyurethanes 628-89-7DP, 2-(2-Chloroethoxy)ethanol, reaction products with polyurethanes and reactive compds. 818-61-1DP, reaction products with polyurethanes and reactive compds. 1709-71-3DP, reaction products with polyurethanes and reactive compds. 5036-48-6DP, N-(3-Aminopropyl)imidazole, reaction products with functionalized polyurethanes 5405-41-4DP, Ethyl 3-hydroxybutyrate, reaction products with polyurethanes and reactive compds. **9002-98-6DP**, Lupasol WF, reaction products with **functionalized** polyurethanes 37418-88-5DP, reaction products with polyurethanes and reactive compds. 351523-30-3DP, functionalized derivs. 351523-31-4DP, functionalized derivs. 351523-34-7DP, functionalized derivs.
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(production of **functionalized** polyurethane foams with adsorption properties)

IT 50-00-0, Formaldehyde, processes **7440-02-0**, **Nickel**, processes **7440-48-4**, **Cobalt**, processes **7440-50-8**, **Copper**, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(production of functionalized polyurethane foams with adsorption properties)

IT 9001-62-1P, lipase
RL: IMF (Industrial manufacture); PREP (Preparation)
(reaction products, with functionalized polyurethanes; production of functionalized polyurethane foams with adsorption properties)

IT 674-82-8DP, diketene, alkyl derivs.
RL: IMF (Industrial manufacture); PREP (Preparation)
(reaction products, with polyurethanes; production of functionalized polyurethane foams with adsorption properties for biocatalysts)

IT **9002-98-6DP**, Lupasol WF, reaction products with **functionalized** polyurethanes
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(production of **functionalized** polyurethane foams with adsorption properties)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

IT **7440-02-0, Nickel**, processes **7440-48-4, Cobalt**, processes **7440-50-8, Copper**, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(production of functionalized polyurethane foams with adsorption properties)
RN 7440-02-0 HCAPLUS
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-48-4 HCAPLUS
CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

L58 ANSWER 21 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:31558 HCAPLUS
DN 134:86660
TI Biodegradable block copolymers with modifiable surface
IN Gopferich, Achim; Tessmar, Jorg; Schulz, Michaela; Blunk, Torsten; Mikos, Antonios
PA Germany
SO PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001002460	A1	20010111	WO 2000-EP6313	20000705
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19930729	A1	20010111	DE 1999-19930729	19990705
AU 2000066889	A5	20010122	AU 2000-66889	20000705
EP 1198488	A1	20020424	EP 2000-954430	20000705

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL

PRAI DE 1999-19930729 A 19990705
WO 2000-EP6313 W 20000705

AB The title polymers, useful as carriers for tissue culture and active substances and for controlled release and targeted administration of active substances, comprise biodegradable, hydrophobic segments and hydrophilic segments bearing reactive groups for covalent bonding to surface-modifying substances, the reactive groups being functional groups and/or biofunctional mols. bearing such groups (but not OH groups when the hydrophilic segment is polyoxyethylene). Polymerization of ethylene oxide in THF, adding (Me3Si)2NK, stirring at room temperature for 36 h, and hydrolyzing with HCl have an NH2 group-terminated polyoxyethylene which was polymerized with cyclic D,L-lactide in PhMe in the presence of Sn ethylhexanoate to give a block polymer (I). Refluxing I with a slight excess of disuccinimidyl **tartrate** in MeCN containing Et3N gave a functionalized block copolymer.

IC ICM C08G063-664
ICS C08G081-00; A61L027-18; A61K047-48

CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 9, 63

ST block copolymer functional biodegradable; polyoxyethylene block copolymer biodegradable; lactide block copolymer biodegradable; succinimidyl **tartrate** adduct block copolymer; tissue culture block copolymer biodegradable; controlled release block copolymer biodegradable

IT Polyoxyalkylenes, preparation
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(amino group-terminated, reaction products with polylactide and disuccinyl **tartrate**; biodegradable block copolymers with modifiable surfaces)

IT Biodegradable materials
(biodegradable block copolymers with modifiable surfaces)

IT Cell
(biodegradable block copolymers with modifiable surfaces for bonding of cells)

IT Dyes
(biodegradable block copolymers with modifiable surfaces for bonding of dyes)

IT Proteins, general, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(biodegradable block copolymers with modifiable surfaces for bonding of proteins)

IT Drug delivery systems
(biodegradable block copolymers with modifiable surfaces for use in targeted drug delivery)

IT Animal tissue culture
(biodegradable block copolymers with modifiable surfaces for use in tissue culture)

IT Polymers, preparation
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(block; biodegradable block copolymers with modifiable surfaces)

IT Ortho acids
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(esters, polymers, reaction products with hydrophilic polymers, functional derivs.; biodegradable block copolymers with modifiable surfaces)

IT Polyoxyalkylenes, preparation
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(polyester-, block, functional derivs.; biodegradable block copolymers with modifiable surfaces)

IT Polyesters, preparation
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(polyoxyalkylene-, block, functional derivs.; biodegradable block copolymers with modifiable surfaces)

IT Peptides, preparation
Polyamides, preparation
Polyanhydrides
Polycarbonates, preparation
Polyesters, preparation
Polyphosphazenes
Polysaccharides, preparation
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(reaction products with hydrophilic polymers, functional derivs.; biodegradable block copolymers with modifiable surfaces)

IT Polyoxyalkylenes, preparation
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(reaction products with hydrophobic polymers, functional derivs.; biodegradable block copolymers with modifiable surfaces)

IT **9002-89-5DP**, Poly(vinyl alcohol), reaction products with hydrophobic polymers, **functional** derivs. 9003-05-8DP, Polyacrylamide, reaction products with hydrophobic polymers, functional derivs. 9003-11-6DP, Polyethylene-polypropylene glycol, reaction products with hydrophobic polymers, functional derivs. 24980-41-4DP, Polycaprolactone, reaction products with hydrophilic polymers, functional derivs. 25190-06-1DP, Polytetramethylene glycol, reaction products with hydrophobic polymers, functional derivs. 25248-42-4DP, Polycaprolactone, sru, reaction products with hydrophilic polymers, functional derivs. 25322-68-3DP, Polyethylene glycol, amino group-terminated, reaction products with polylactide and disuccinyl **tartrate** 25322-69-4DP, Polypropylene glycol, reaction products with hydrophobic polymers, functional derivs. 26009-03-0DP, Polyglycolide, reaction products with hydrophobic polymers, functional derivs. 26023-30-3DP, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)], reaction products with aminopolyoxyethylene and disuccinimidyl **tartrate** 26063-00-3DP, 3-Hydroxybutyric acid homopolymer, reaction products with hydrophilic polymers, functional derivs. 26161-42-2DP, reaction products with aminopolyoxyethylene and disuccinimidyl **tartrate** 26202-08-4DP, Polyglycolide, reaction products with hydrophobic polymers, functional derivs. 26680-10-4DP, reaction products with aminopolyoxyethylene and disuccinimidyl **tartrate** 26744-04-7DP, 3-Hydroxybutyric acid homopolymer, sru, reaction products with hydrophilic polymers, functional derivs. 26780-50-7DP, Glycolide-lactide copolymer, reaction products with hydrophilic polymers, functional derivs. 33135-50-1DP, reaction products with aminopolyoxyethylene and disuccinimidyl **tartrate** 62069-75-4DP, reaction products with block polyester-polyoxyalkylenes

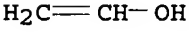
78644-42-5DP, Poly(malic acid), reaction products with hydrophilic polymers, functional derivs. 317366-42-0DP, reaction products with hydrophilic polymers, functional derivs.
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(biodegradable block copolymers with modifiable surfaces)

IT **9002-89-5DP**, Poly(vinyl alcohol), reaction products with hydrophobic polymers, **functional** derivs.
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(biodegradable block copolymers with modifiable surfaces)

RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 22 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:842028 HCAPLUS
DN 134:21459
TI Bioadhesive hydrogels with functionalized degradable crosslinks
IN Marchant, Nancy S.
PA B.F.Goodrich Company, USA
SO PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000071180	A1	20001130	WO 2000-US11265	20000427
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 2002068087	A1	20020606	US 1999-316688	19990521
	US 6514535	B2	20030204		
	CA 2374296	AA	20001130	CA 2000-2374296	20000427
	EP 1178848	A1	20020213	EP 2000-928443	20000427
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2003500491	T2	20030107	JP 2000-619481	20000427
PRAI	US 1999-316688	A	19990521		
	WO 2000-US11265	W	20000427		

AB This invention relates to a bioadhesive composition comprising two or more essentially excretable, essentially non-degradable polymer backbones, wherein the polymer backbones are crosslinked, said crosslink being degradable in a mammal, said cross-linked bioadhesive composition having an average bioadhesion factor showing bioadhesion equivalent to at least about 100 g s. The concept is to build a hydrogel that demonstrates bioadhesion to a mucosal surface that is crosslinked by a degradable linkage such as disulfide for use inside the body. Free radical polymerization of acrylic acid and bis-acrylamide cystamine produced a polymer which was isolated as a white powder. The viscosity of 0.2% of the polymer in deionized water was 1080.

IC ICM A61L027-58
ICS A61L027-52; A61L024-00

CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 38

ST bioadhesive hydrogel degradable crosslink polyacrylate

IT Adhesion, biological
Crosslinking agents
(bioadhesive hydrogels with functionalized degradable crosslinks)

IT Polyamides, biological studies
Polyesters, biological studies
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(bioadhesive hydrogels with functionalized degradable crosslinks)

IT Disulfides
Esters, reactions
Peptides, reactions
Thiols (organic), reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(bioadhesive hydrogels with functionalized degradable crosslinks)

IT Adhesives
(biol.; bioadhesive hydrogels with functionalized degradable crosslinks)

IT Drug delivery systems
(hydrogels; bioadhesive hydrogels with functionalized degradable crosslinks)

IT Carboxylic acids, biological studies
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(polycarboxylic; bioadhesive hydrogels with functionalized degradable crosslinks)

IT Vinyl compounds, biological studies
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(polymers; bioadhesive hydrogels with functionalized degradable crosslinks)

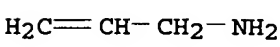
IT 6539-14-6DP, reaction product polyallylamine 9003-01-4P, Polyacrylic acid 9003-05-8P 9003-39-8P, Polyvinyl pyrrolidone 25087-26-7P, Polymethacrylic acid 25249-16-5P 26099-09-2P, Polymaleic acid **30551-89-4DP**, reaction product with 2-iminothiolane 30551-89-4P, Polyallylamine 310441-04-4P 310441-05-5P 310441-06-6P 310441-07-7P 310441-08-8P 310441-09-9P 310441-10-2P
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(bioadhesive hydrogels with **functionalized** degradable crosslinks)

IT **30551-89-4DP**, reaction product with 2-iminothiolane
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(bioadhesive hydrogels with **functionalized** degradable

crosslinks)
RN 30551-89-4 HCAPLUS
CN 2-Propen-1-amine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-11-9
CMF C3 H7 N



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 23 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:803278 HCAPLUS
DN 134:75968
TI Immobilization of heavy metals from **aqueous** solutions using polyacrylamide grafted hydrous tin (IV) oxide gel having carboxylate functional groups
AU Shubha, K. P.; Raji, C.; Anirudhan, T. S.
CS Department of Chemistry, University of Kerala, Kariavattom, Trivandrum, 695 581, India
SO Water Research (2000), Volume Date 2001, 35(1), 300-310
CODEN: WATRAG; ISSN: 0043-1354
PB Elsevier Science Ltd.
DT Journal
LA English
AB A new adsorbent containing a carboxylate group has been prepared by the surface modification of a polyacrylamide grafted hydrous tin (IV) oxide gel. The product exhibits a very high adsorption potential for Pb(II), Hg(II) and Cd(II). The effect of initial metal ion concentration, adsorbent dose, pH, concentration of light metal ions, and temperature on metal removal has been studied. The process follows a first-order rate kinetics. The intraparticle diffusion of metal ions through pores in the adsorbent was shown to be the main rate limiting step. The equilibrium data fit well with the Langmuir adsorption isotherm. The selectivity order of the adsorbent is Pb(II)°Hg(II)°Cd(II). Adsorption rate consts. and thermodn. parameters were also presented to predict the nature of adsorption. The method was applied on synthetic wastewaters. Acid regeneration has been tried for several cycles with a view to recover the adsorbed metal ions and also to restore the sorbent to its original state.
CC 61-3 (Water)
ST polyacrylamide tin oxide gel heavy metal adsorption wastewater
IT Wastewater treatment
(adsorption; immobilization of heavy metals from **aqueous** solns. using polyacrylamide grafted hydrous tin (IV) oxide gel having carboxylate functional groups)
IT Adsorption kinetics
(immobilization of heavy metals from **aqueous** solns. using polyacrylamide grafted hydrous tin (IV) oxide gel having carboxylate functional groups)
IT Heavy metals
RL: PEP (Physical, engineering or chemical process); **REM (Removal or disposal)**; PROC (Process)
(immobilization of heavy metals from **aqueous** solns. using polyacrylamide grafted hydrous tin (IV) oxide gel having carboxylate functional groups)

IT **7439-92-1**, Lead, processes **7439-97-6**, Mercury, processes **7440-43-9**, Cadmium, processes
RL: PEP (Physical, engineering or chemical process); **REM (Removal or disposal)**; PROC (Process)
(immobilization of heavy metals from **aqueous** solns. using **polyacrylamide** grafted hydrous tin (IV) oxide gel having carboxylate functional groups)

IT 9003-05-8D, reaction products with hydrous tin oxide, functionalized with carboxylate groups 13472-47-4D, Tin hydroxide oxide (Sn(OH)2O), reaction products with **polyacrylamide, functionalized** with carboxylate groups
RL: TEM (Technical or engineered material use); USES (Uses)
(immobilization of heavy metals from **aqueous** solns. using **polyacrylamide** grafted hydrous tin (IV) oxide gel having carboxylate functional groups)

IT **7439-92-1**, Lead, processes **7439-97-6**, Mercury, processes **7440-43-9**, Cadmium, processes
RL: PEP (Physical, engineering or chemical process); **REM (Removal or disposal)**; PROC (Process)
(immobilization of heavy metals from **aqueous** solns. using **polyacrylamide** grafted hydrous tin (IV) oxide gel having carboxylate functional groups)

RN 7439-92-1 HCAPLUS
CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

RN 7439-97-6 HCAPLUS
CN Mercury (8CI, 9CI) (CA INDEX NAME)

Hg

RN 7440-43-9 HCAPLUS
CN Cadmium (8CI, 9CI) (CA INDEX NAME)

Cd

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 24 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:740676 HCAPLUS
DN 133:354504
TI Kinetics of the simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger
AU Snukiskis, Julius; Kauspediene, Danute
CS Department of Environmental Chemistry, Institute of Chemistry, Vilnius, 2600, Lithuania
SO Solvent Extraction and Ion Exchange (2000), 18(5), 1001-1013
CODEN: SEIEDB; ISSN: 0736-6299
PB Marcel Dekker, Inc.
DT Journal
LA English

AB Kinetics of the simultaneous sorption of nonionic surfactant oxyethylated alcs. (OS-20) and copper(II) by hydrogen containing form of Purolite C 106 **polyacrylic acid-functionalized** cation exchanger was investigated: kinetic curves measured, effective coeffs. of intraparticle diffusion (D), effective kinetic coeffs. of the external mass transfer (β) were calculated The sorption of copper (II) and OS-20 is controlled by the intraparticle diffusion. The diffusion rate depends on the solution acidity, i.e., with increasing acidity, both the rate of copper (II) intraparticle diffusion and the equilibrium sorption decrease, whereas the rate of intraparticle diffusion and the equilibrium sorption of OS-20 increase. The presence of copper (II) results in an increase in OS-20 diffusion rate but leads to a decrease in the equilibrium sorption of OS-20. The action of OS-20 results in the decrease in the equilibrium sorption of copper (II). The simultaneous sorption of oxyethylated alcs. and copper (II) by Purolite C 106 can be applicable to treatment of wastewaters, including copper plating rinse **water.** A column filled with Purolite C 106 would not limit the productivity if integrated into the system of wastewater treatment by ion exchange.

CC 60-3 (Waste Treatment and Disposal)

ST nonionic surfactant copper sorption **polyacrylic acid functionalized** ion exchanger; surfactant copper removal wastewater **polyacrylic acid functionalized** ion exchanger

IT Wastewater treatment
(adsorption; kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)

IT Wastewater treatment
(ion exchange; kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)

IT Mass transfer
Sorption kinetics
(kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)

IT Surfactants
(nonionic; kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)

IT Wastewater treatment
(sorption; kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)

IT 9003-01-4, Polyacrylic acid
RL: MOA (Modifier or additive use); USES (Uses)
(kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)

IT 144046-63-9, Purolite C 106
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)

IT **7440-50-8**, Copper, processes
RL: PEP (Physical, engineering or chemical process); PRP (Properties); **REM (Removal or disposal)**; PROC (Process)
(kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)

IT 11099-04-0, OS 20
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
REM (Removal or disposal); PROC (Process)
(surfactant; kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)
IT **7440-50-8**, Copper, processes
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
REM (Removal or disposal); PROC (Process)
(kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 25 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:317100 HCAPLUS
DN 132:335590
TI Water-thinned polyurethane adhesives with good heat and water resistance
IN Tanimoto, Seishi; Kato, Mitsuru; Fujiwara, Naoki; Nakamae, Masato
PA Kuraray Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000136369	A2	20000516	JP 1998-311717	19981102
PRAI	JP 1998-311717		19981102		

AB The adhesive emulsions contain polyurethanes prepared by reacting NCO-containing urethane prepolymers with (a) vinyl alc. polymers having amino, primary OH, and/or acetoacetyl groups, and (b) low-mol. weight compds. having amino or OH group. OH-terminated adipic acid-3-methyl-1,5-**pentanediol** copolymer (Mn 2150, 537.5 g) was polymerized with 111.1 g IPDI and 6.71 g 2,2-bis(hydroxymethyl)propionic acid to give NCO-terminated prepolymer, which was dissolved in MEK, mixed with Et3N, emulsified, and reacted with aqueous solution containing saponified vinyl acetate-vinylformamide copolymer (d.p. 350) 34.0, diethylenetriamine 7.58, and isophorone diamine 12.52 g to give an emulsion. A soft PVC sheet was bonded to plywood using the adhesive to show adhesive strength 5.5 kg/in. When the bonded material was soaked in water for 24 h or left at 80°, the strength was 1.9 and 1 kg/in., resp.
IC ICM C09J175-04
ICS C08G018-00; C08G018-10; C08G018-62; C08G018-65
CC 38-3 (Plastics Fabrication and Uses)
ST water heat resistance adhesive polyurethane emulsion; adipic acid **methylpentanediol** IPDI copolymer adhesive; vinyl alc vinylformamide polyurethane adhesive; diethylenetriamine isophorone diamine polyurethane adhesive
IT Polyurethanes, uses
Polyurethanes, uses

Polyurethanes, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(epoxy-polyester-, thio; water-thinned polyurethane adhesives with good heat and water resistance)

IT Polyesters, uses
Polyesters, uses
Polyesters, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(epoxy-polyurethane-, thio; water-thinned polyurethane adhesives with good heat and water resistance)

IT Adhesives
(heat-resistant; water-thinned polyurethane adhesives with good heat and water resistance)

IT Polyurethanes, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-; water-thinned polyurethane adhesives with good heat and water resistance)

IT Polyurethanes, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-polyoxyalkylene-; water-thinned polyurethane adhesives with good heat and water resistance)

IT Epoxy resins, uses
Epoxy resins, uses
Epoxy resins, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-polyurethane-, thio; water-thinned polyurethane adhesives with good heat and water resistance)

IT Adhesives
(water-resistant; water-thinned polyurethane adhesives with good heat and water resistance)

IT Adhesives
(water-thinned; water-thinned polyurethane adhesives with good heat and water resistance)

IT 60-24-2DP, 2-Mercaptoethanol, reaction products with vinyl acetate polymer, saponified, polymers with functional group-containing monomers, salts 107-15-3DP, Ethylenediamine, polymers with functional group-containing monomers, salts 111-40-0DP, Diethylenetriamine, polymers with functional group-containing monomers, salts 121-44-8DP, Triethylamine, salts with polyester-polyurethanes 124-04-9DP, Adipic acid, polymers with functional group-containing monomers, salts 137-07-5DP, 2-Aminothiophenol, reaction products with vinyl acetate polymer, saponified, polymers with functional group-containing monomers, salts 584-84-9DP, 2,4-Tolylene diisocyanate, polymers with functional group-containing monomers, salts 674-82-8DP, Diketene, reaction products with poly(vinyl alc.), polymers, salts 2224-15-9DP, Ethylene glycol diglycidyl ether, polymers with functional group-containing monomers, salts 2855-13-2DP, Isophorone diamine, polymers with functional group-containing monomers, salts 4098-71-9DP, IPDI, polymers with functional group-containing monomers, salts 4457-71-0DP, 3-Methyl-1,5-**pentanediol**, polymers with functional group-containing monomers, salts 4767-03-7DP, 2,2-Bis(hydroxymethyl)propionic acid, polymers with functional group-containing monomers, salts 5124-30-1DP, Methylenebis(4-cyclohexyl isocyanate), polymers with functional group-containing monomers, salts 7417-99-4DP, 4,4'-Bis(ethyleneiminocarbonylamino)diphenylmethane, polymers with functional group-containing monomers, salts 7426-74-6DP, 2,2'-Ethylenebis(2-oxazoline),

polymers with functional group-containing monomers, salts **9002-89-5DP**, Poly(vinyl alcohol), acetoacetylated, polymers with **functional** group-containing monomers, salts 25190-06-1DP, Polytetramethylene glycol, polymers with functional group-containing monomers, salts 25248-42-4DP, Polycaprolactone, sru, **diol** derivs., polymers with functional group-containing monomers, salts 28432-21-5DP, Methylvinylacetamide-vinyl acetate copolymer, saponified, polymers with functional group-containing monomers, salts 31048-51-8DP, Allyl glycidyl ether-vinyl acetate copolymer, reaction products, saponified, polymers with functional group-containing monomers, salts 39751-34-3DP, Adipic acid-3-methyl-1,5-**pentanediol** copolymer, polymers with functional group-containing monomers, salts 108941-57-7DP, Vinyl acetate-N-vinylformamide copolymer, saponified, polymers with functional group-containing monomers, salts 145379-20-0P, Burnock CR 60N
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-thinned polyurethane adhesives with good heat and water resistance)

IT **9002-89-5DP**, Poly(vinyl alcohol), acetoacetylated, polymers with **functional** group-containing monomers, salts
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-thinned polyurethane adhesives with good heat and water resistance)

RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

$H_2C{=}CH{-}OH$

L58 ANSWER 26 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:207656 HCAPLUS
DN 132:309164
TI A spectroscopic study of Cu(II)-complexes of chelating resins containing nitrogen and sulfur atoms in the chelating groups
AU Cobianco, S.; Lezzi, A.; Scotti, R.
CS EniTecnologie S.p.A., San Donato, I-20096, Italy
SO Reactive & Functional Polymers (2000), 43(1,2), 7-16
CODEN: RFPOF6; ISSN: 1381-5148
PB Elsevier Science B.V.
DT Journal
LA English
AB The structure of Cu(II)-**thiol**, dithiocarbamate, methylthiourea and amino complexes was elucidated from spectroscopic property data. The influence of the chemical functional groups and spacers on chelating activity of amino and sulfur group containing resins towards Cu(II) ions in diluted solution was evaluated. The resins are macroporous chloromethylated poly(styrene-divinylbenzene) functionalized with two spacer groups, poly(ethylene glycol) and poly(ethylene imine) chains, supporting **thiol**, dithiocarbamate, methylthiourea and amino groups. ESR (EPR) was used to study the coordination of Cu(II) ions in the complexes. The Cu(II)-dithiocarbamate complexes have square planar coordination with two dithiocarbamate groups bound to the metal. The resins with

methylthiourea as functional group form. Cu(II)-complexes in tetragonal symmetry with four nitrogen atoms as equatorial ligands. Partial reduction of Cu(II) to diamagnetic Cu(I) leads to formation of Cu(I)-methylthiourea complexes, where copper is S-bonded to the methylthiourea group. In Cu(II)-**thiol** complexes, Cu(II) ions are bound through sulfur bridges.

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 54

ST copper complex functionalized chelating resin structure; thio amino functionalized chelating resin complexation copper; styrene divinylbenzene copolymer resin functionalized chain; polyethylene glycol chain functionalized chelating resin; polyethyleneimine functionalized chelating resin amino thio group

IT Polyoxyalkylenes, uses
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(amino- and thio-functionalized, reaction products with chloromethylated poly(divinylbenzene-styrene); structure of Cu(II)-amino- and thio-functionalized chelating resin complexes for selective separation of metals)

IT Adsorption
Chelating agents
Chelation
Molecular structure
(structure of Cu(II)-amino- and thio-functionalized chelating resin complexes for selective separation of metals)

IT 7440-50-8, Copper, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(structure of Cu(II)-amino- and thio-functionalized chelating resin complexes for selective separation of metals)

IT 75-15-0DP, Carbon disulfide, reaction products with poly(ethylene imine) and chloromethylated poly(divinylbenzene-styrene), preparation
594-07-0P, Carbamodithioic acid **9002-98-6DP**, amino- and thio-**functionalized**, reaction products with chloromethylated poly(divinylbenzene-styrene) 9003-70-7DP, Divinylbenzene-styrene copolymer, chloromethylated, reaction products with amino- and thio-functionalized poly(ethylene imine) **26913-06-4DP**, Poly[imino(1,2-ethanediyl)], amino- and thio-**functionalized**, reaction products with chloromethylated poly(divinylbenzene-styrene)
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(structure of Cu(II)-amino- and thio-**functionalized** chelating resin complexes for selective separation of metals)

IT 25322-68-3D, Poly(ethylene glycol), amino- and thio-functionalized, reaction products with chloromethylated poly(divinylbenzene-styrene)
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(structure of Cu(II)-amino- and thio-functionalized chelating resin complexes for selective separation of metals)

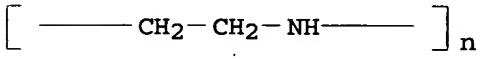
IT **9002-98-6DP**, amino- and thio-**functionalized**, reaction products with chloromethylated poly(divinylbenzene-styrene)
26913-06-4DP, Poly[imino(1,2-ethanediyl)], amino- and thio-**functionalized**, reaction products with chloromethylated poly(divinylbenzene-styrene)
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(structure of Cu(II)-amino- and thio-**functionalized** chelating resin complexes for selective separation of metals)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

RN 26913-06-4 HCAPLUS
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 27 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:133741 HCAPLUS
DN 132:167158
TI Method and materials for fabrication of polymers having alumoxane linkages
IN Cook, Ronald Lee; Barron, Andrew Ross; Gleason, Kevin Joseph; MacQueen, David Brent; Siparsky, Georgette Laila; Koide, Yoshihiro
PA Wm. Marsh Rice University, USA; Tda Research, Inc.
SO PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000009578	A1	20000224	WO 1999-US18007	19990813
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 6369183	B1	20020409	US 1998-133642	19980813
	EP 1200498	A1	20020502	EP 1999-942051	19990813
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	US 2002177685	A1	20021128	US 2002-119371	20020408
PRAI	US 1998-133642	A	19980813		
	WO 1999-US18007	W	19990813		

AB Title polymers are manufactured by reaction of carboxylate-alumoxanes that are functionalized with a chemical reactive substituent and a multifunctional compound that reacts with the reactive substituent on the carboxylate-alumoxane. The functional groups on the carboxylate-alumoxane can vary depending on the desired properties of the matrix. Also, the composition of matter may comprise a crosslinked matrix in which the crosslinked components consist of functionalized alumoxanes. A typical functionalized carboxylate-alumoxane was manufactured by refluxing of boehmite having particle size 40-70 nm [prepared from aluminum tris(sec-butoxide)] with 4-hydroxybenzoic acid in a 1:1 ratio in water overnight.
IC ICM C08F283-00

ICS C08F283-04; C08F006-00; C08G065-32; C08G008-28; C08G059-14; C08G018-08; C08G059-00; C08G059-40; C08G002-00; C08G063-02; C08G063-06; C08G079-00
CC 37-3 (Plastics Manufacture and Processing)
ST alumoxane crosslinked polymer manuf; hydroxybenzoate boehmite manuf; nanocomposite alumoxane polymer manuf
IT Aluminoxanes
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(esters, with functionalized carboxylic acids; fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)
IT Crosslinking agents
Hybrid organic-inorganic materials
Nanocomposites
(fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)
IT Polyamides, preparation
Polycarbonates, preparation
Polyesters, preparation
Polyimides, preparation
Polysulfones, preparation
Polyurethanes, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)
IT Epoxy resins, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)
IT Monomers
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)
IT Polyketones
Polyketones
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyamine-; fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)
IT Polyketones
Polyketones
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyimide-; fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)
IT Polyamines
Polyamines
Polyimides, preparation
Polyimides, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyketone-; fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)
IT 2269-22-9, Aluminum tris(sec-butoxide)
RL: RCT (Reactant); RACT (Reactant or reagent)
(alumoxane precursor; fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer

particle size)

IT 57-13-6DP, Urea, polymers with hydroxybenzoate-alumoxane, preparation
88-95-9DP, Phthaloyl chloride, polymers with diaminohexanoate- or diphenolato-aluminoxane 101-68-8DP, MDI, polymers with dimethylolpropionate-aluminoxane 106-51-4DP, 2,5-Cyclohexadiene-1,4-dione, polymers with diaminohexanoate-aluminoxane, preparation
106-89-8DP, Epichlorohydrin, polymers with hydroxybenzoate-alumoxane 111-20-6DP, Sebacic acid, polymers with (methoxyethoxy)ethoxyacetate-alumoxane 2479-49-4DP, 3,3',4,4'-Benzophenonetetracarboxylic acid, polymers with aminobenzoate-aluminoxane
9002-89-5DP, Polyvinyl alcohol, reaction products with (methoxyethoxy)ethoxyacetate-alumoxane
RL: IMF (Industrial manufacture); PREP (Preparation)
(fabrication of polymers having alumoxane (cross)links using **functionalized** carboxylate-alumoxanes with nanometer particle size)

IT 50-21-5DP, Lactic acid, esters with alumoxanes 56-40-6DP, Aminoacetic acid, esters with alumoxanes 56-87-1DP, Lysine, esters with alumoxanes 60-32-2DP, 6-Aminohexanoic acid, esters with alumoxanes 79-14-1DP, Hydroxyacetic acid, esters with alumoxanes 79-41-4DP, Methacrylic acid, esters with alumoxanes 99-96-7DP, 4-Hydroxybenzoic acid, esters with alumoxanes 150-13-0DP, 4-Aminobenzoic acid, esters with alumoxanes 4767-03-7DP, 2,2-Bis(hydroxymethyl)propionic acid, esters with alumoxanes 258833-34-0DP, 2,2-Bis(hydroxyphenyl)valeric acid, esters with alumoxanes
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)

IT 526-95-4D, Gluconic acid, esters with alumoxanes 16024-58-1D, 2-(2-Methoxyethoxy)ethoxyacetic acid, esters with alumoxanes
RL: MOA (Modifier or additive use); USES (Uses)
(fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)

IT 122-60-1D, 1,2-Epoxy-3-phenoxypropane, polymers with hydroxybenzoate-alumoxane 25085-98-7, ERL 4221 174794-97-9, Epi-Rez 5522WY55 259136-93-1, HTR 212
RL: POF (Polymer in formulation); USES (Uses)
(fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)

IT 25085-99-8, DER 332
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)

IT 24623-77-6P, Aluminum oxide hydroxide
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer/crosslinker precursor; fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)

IT **106-89-8DP**, Epichlorohydrin, polymers with hydroxybenzoate-alumoxane **9002-89-5DP**, Polyvinyl alcohol, reaction products with (methoxyethoxy)ethoxyacetate-alumoxane
RL: IMF (Industrial manufacture); PREP (Preparation)
(fabrication of polymers having alumoxane (cross)links using **functionalized** carboxylate-alumoxanes with nanometer particle size)

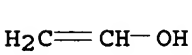
RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)

CH_2-Cl

RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



$H_2C=CH-OH$

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 28 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:65341 HCAPLUS
DN 132:108816
TI Water-soluble polymers having pendant derivatized amide functionalities for corrosion and scale control
IN Carter, Phillip W.; Morris, John D.; Reed, Peter E.; Tang, Jiansheng; Wang, Jin-shan; Young, Paul R.
PA Nalco Chemical Co., USA
SO U.S., 10 pp., Cont.-in-part of U.S. 5,726,267.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 5

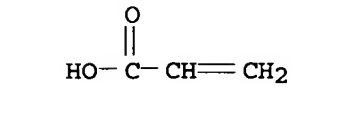
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6017994	A	20000125	US 1997-884154	19970627
	US 5726267	A	19980310	US 1997-792610	19970131
	AU 9865998	A1	19990107	AU 1998-65998	19980515
	EP 887316	A1	19981230	EP 1998-304984	19980624
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	SG 75853	A1	20001024	SG 1998-1516	19980624
	CA 2241617	AA	19981227	CA 1998-2241617	19980626
	CN 1203889	A	19990106	CN 1998-115289	19980626
	BR 9802297	A	19991005	BR 1998-2297	19980626
	JP 11070398	A2	19990316	JP 1998-182027	19980629
	TW 460420	B	20011021	TW 1998-87110374	19980922
	US 2002065358	A1	20020530	US 1999-333384	19990615
PRAI	US 1997-792610	A2	19970131		
	US 1997-884154	A	19970627		

AB The title control methods use water-soluble copolymers having residues of acrylic acid, acrylamide, etc. and pendant derivatized amide functionalities CH(R6)C(R5)CON(R1)(CHR2CHR3Het1)p(CHR2CHR3Het2)qR4 (R1-6 = H; p, q = 1; Het1 = N and Het2 = O) for scale [calcium phosphate, zinc phosphate, iron(hydr)oxide, aluminum hydroxide, calcium sulfate, magnesium phosphate, calcium sulfate, calcium oxalate and calcium carbonate] control. Corrosion and scale deposition in aqueous media is prevented by water-soluble polymers having pendant derivatized amide functionalities for scale inhibition, e.g., ammonium acrylate-N-(2-hydroxyethoxy)acrylamide copolymer.

IC ICM C08L039-00
INCL 524555000
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): **61**
ST water soluble polymer scale control; ammonium acrylate copolymer scale control; hydroxyethoxy acrylamide copolymer scale control
IT Scale (deposits)
(control; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT Silt
(scale; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT Clays, miscellaneous
RL: MSC (Miscellaneous)
(scale; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT Biocides
Cooling water
Corrosion inhibitors
(water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT Polymers, preparation
RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)
(water-soluble; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT 471-34-1, Calcium carbonate, miscellaneous 546-93-0, Magnesium carbonate 1309-33-7, Iron hydroxide (Fe(OH)3) 1309-37-1, Iron oxide, miscellaneous 7727-43-7, Barium sulfate 7757-86-0 7757-93-9 7779-90-0, Zinc phosphate 21645-51-2, Aluminum hydroxide, miscellaneous
RL: MSC (Miscellaneous)
(scale; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT 111-41-1DP, reaction products with acrylamide-sodium acrylate copolymer 141-43-5DP, Ethanolamine, reaction products with acrylamide-acrylic acid copolymer 929-06-6DP, reaction products with poly(acrylic acid) 1336-21-6DP, Ammonium Hydroxide, reaction products with poly(acrylic acid) **9003-01-4DP**, Poly(acrylic acid), reaction products with aminoethoxyethanol and ammonium hydroxide 9003-05-8DP, Polyacrylamide, reaction products with aminoethoxyethanol 9003-06-9DP, Acrylamide-acrylic acid copolymer, reaction products with aminoethoxyethanol 25085-02-3DP, Acrylamide-sodium acrylate copolymer, reaction products with aminoethoxyethanol 26100-47-0DP, Acrylamide-ammonium acrylate copolymer, reaction products with aminoethoxyethanol 34447-10-4DP, reaction products with acrylamide-sodium acrylate copolymer 83713-01-3DP, Jeffamine M 1000, reaction products with acrylamide-sodium acrylate copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-soluble polymers having pendant derivatized amide **functionalities** for corrosion and scale control)
IT **9003-01-4DP**, Poly(acrylic acid), reaction products with aminoethoxyethanol and ammonium hydroxide
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-soluble polymers having pendant derivatized amide **functionalities** for corrosion and scale control)
RN 9003-01-4 HCAPLUS
CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
CMF C3 H4 O2



RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 29 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:408084 HCAPLUS
DN 131:175024
TI Functionalized nanoparticles for endotoxin binding in **aqueous** solutions
AU Darkow, R.; Groth, Th.; Albrecht, W.; Lutzow, K.; Paul, D.
CS GKSS Res. Center, Inst. Chemistry, Teltow, D-14513, Germany
SO Biomaterials (1999), 20(14), 1277-1283
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English
AB Nanoparticles consisting of a polystyrene core and a polyglycidyl methacrylate shell were prepared by a 2-step emulsion polymerization The size and surface properties of the particles were characterized by SEM, dynamic light scattering and polyelectrolyte titration techniques. Particles were monodisperse with a mean diameter of about 85 nm. Parent particles were modified with a number of different ligands including diamines of increasing chain length, amino acids and corresponding amines and higher mol. weight ligands like polymyxin **B.** The modified particles were tested for their endotoxin (ET) binding capacity in **water** and physiol. sodium chloride solution by the Limulus amebocyte lysate (LAL) assay. The ET binding properties of the different ligands depend both on the ability of the ligand to form Coulomb- and van der Waals-interactions with the ET mol. influence by the nature of the suspension medium. Therefore, the choice of ligands for particle modification has to consider minutely the conditions under which ET has to be **removed**, e.g., **removal** from pure **water**, dialysis fluids, plasma or blood.
CC 63-7 (Pharmaceuticals)
ST nanoparticle endotoxin binding polymer; amine polymer nanoparticle endotoxin binding
IT Toxins
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(endotoxins; functionalized nanoparticles for endotoxin binding in **aqueous** solns.)
IT Limulus
Nanoparticles
Particle size distribution
(functionalized nanoparticles for endotoxin binding in **aqueous** solns.)
IT 124752-62-1DP, Glycidyl methacrylate-styrene graft copolymer, reaction products with amines
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(core-shell; functionalized nanoparticles for endotoxin binding in **aqueous** solns.)

IT 51-45-6DP, Histamine, reaction products with polymers 56-87-1DP, L-Lysine, reaction products with polymers, biological studies 61-54-1DP, Tryptamine, reaction products with polymers 71-00-1DP, L-Histidine, reaction products with polymers, biological studies 73-22-3DP, Tryptophan, reaction products with polymers 107-15-3DP, Ethylenediamine, reaction products with polymers 124-09-4DP, HexamEthylenediamine, reaction products with polymers 124-22-1DP, Dodecylamine, reaction products with polymers 136-47-0DP, reaction products with polymers 1404-26-8DP, Polymyxin **B**, reaction products with polymers **9002-98-6DP**, reaction products with polymers
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**functionalized** nanoparticles for endotoxin binding in **aqueous** solns.)

IT **9002-98-6DP**, reaction products with polymers
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**functionalized** nanoparticles for endotoxin binding in **aqueous** solns.)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 30 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:311154 HCAPLUS
DN 130:326787
TI System for extracting soluble heavy metals from liquid solutions, especially **aqueous** solutions
IN Rosenberg, Edward; Pang, David
PA The University of Montana, USA
SO PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9922933	A1	19990514	WO 1997-US19879	19971103
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2306964	AA	19990514	CA 1997-2306964	19971103
	EP 1028845	A1	20000823	EP 1997-946441	19971103
	EP 1028845	B1	20050406		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

	JP 2001521822	T2	20011113	JP 2000-518836	19971103
	AT 292558	E	20050415	AT 1997-946441	19971103
PRAI	WO 1997-US19879	A	19971103		

AB Ions of dissolved heavy metals and complex heavy **metals** are **removed** from process solns. and other **aqueous** solns. by contacting with an extraction material having an activated surface with affinity for heavy metal ions. The activated surface is the reaction product of a support such as silica gel containing a covalently bound trifunctional hydrocarbylsilyl group with a polyamine that yields non-crosslinked amino groups to which functional chelator groups can be covalently attached. The activated surface of the extraction material is formed by hydrating the support surface and then silanizing the hydrated surface with a short chain trifunctional silane having a C1-6-hydrocarbon substituent and a terminal leaving group, e.g., bromopropyltrichlorosilane. The treated surface is then reacted with a polyamine, e.g., polyethyleneimine, to form an aminohydrocarbylsilyl polymer covalently bound to the extraction material surface.

IC ICM B32B001-10
ICS B01D015-00; C02F001-28

CC 48-1 (Unit Operations and Processes)
Section cross-reference(s): 60, **61**

ST heavy **metal removal** functionalized chelating sorbent

IT Sorbents
Sorbents
(chelating; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

IT **Water** purification
(chelation-sorption; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

IT Wastewater treatment
Wastewater treatment
(complexation; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

IT Carboxyl group
(functionalized extraction agents containing; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

IT Sulfides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(functionalized extraction agents containing; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

IT Arsenates
Chromates
Heavy metals
RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
(functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

IT Silica gel, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(functionalized, chelating sorbents; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

IT Polyamines
RL: TEM (Technical or engineered material use); USES (Uses)
(silanized hydrated support reaction products with, functionalized, extraction agents; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

IT Chelating agents
Chelating agents
(sorbents; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

IT Silanes
RL: TEM (Technical or engineered material use); USES (Uses)
(trifunctional, hydrated support reaction products with, aminated, functionalized, extraction agents; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

IT **7439-92-1**, **Lead**, processes **7439-97-6**, **Mercury**, processes **7440-43-9**, **Cadmium**, processes
RL: POL (Pollutant); **REM (Removal or disposal)**; OCCU (Occurrence); PROC (Process)
(functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

IT 79-08-3D, Bromoacetic acid, aminated silanized hydrated support reaction products 420-12-2D, Ethylene sulfide, aminated silanized hydrated support reaction products **9002-98-6D**, silanized hydrated support reaction products, **functionalized** 13883-39-1D, 3-Bromopropyltrichlorosilane, hydrated support reaction products, aminated, functionalized
RL: TEM (Technical or engineered material use); USES (Uses)
(**functionalized** sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

IT **7439-92-1**, **Lead**, processes **7439-97-6**, **Mercury**, processes **7440-43-9**, **Cadmium**, processes
RL: POL (Pollutant); **REM (Removal or disposal)**; OCCU (Occurrence); PROC (Process)
(functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

RN 7439-92-1 HCAPLUS
CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

RN 7439-97-6 HCAPLUS
CN Mercury (8CI, 9CI) (CA INDEX NAME)

Hg

RN 7440-43-9 HCAPLUS
CN Cadmium (8CI, 9CI) (CA INDEX NAME)

Cd

IT **9002-98-6D**, silanized hydrated support reaction products, **functionalized**
RL: TEM (Technical or engineered material use); USES (Uses)
(**functionalized** sorbents for extracting soluble heavy metals from liquid solns. and contaminated **waters**)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

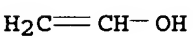
L58 ANSWER 31 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:159998 HCAPLUS
DN 130:349027
TI Functionalised cross-linked polyvinyl alcohol as new matrix for lipase immobilization
AU Cernia, E.; Milana, G.; Ortaggi, G.; Palocci, C.; Soro, S.
CS Department of Chemistry, University of Rome "La Sapienza", Rome, 00185, Italy
SO Progress in Biotechnology (1998), 15(Stability and Stabilization of Biocatalysis), 667-671
CODEN: PBITE3; ISSN: 0921-0423
PB Elsevier Science B.V.
DT Journal
LA English
AB The authors report here preparation of new cross-linked polyvinyl alc. as new matrix for lipase immobilization.
CC 7-7 (Enzymes)
ST enzyme immobilization lipase polyvinyl alc
IT Immobilization, biochemical
(enzyme; functionalized cross-linked polyvinyl alc. as new matrix for lipase immobilization)
IT 9001-62-1, Lipase 9001-62-1D, Lipase, immobilized
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PROC (Process)
(functionalized cross-linked polyvinyl alc. as new matrix for lipase immobilization)
IT 75-98-9D, Pivalic acid, reaction products with poly(vinyl alc) cross-linked with epichlorohydrin **106-89-8D**, Epichlorohydrin, reaction products with poly(vinyl alc.) and esterified with fatty acids 112-80-1D, Oleic acid, reaction products with poly(vinyl alc) cross-linked with epichlorohydrin 143-07-7D, Lauric acid, reaction products with poly(vinyl alc) cross-linked with epichlorohydrin **9002-89-5D**, Poly(vinyl alcohol), reaction products with epichlorohydrin and esterified with fatty acids 22075-86-1D, 12-Chloro-dodecanoic acid, reaction products with poly(vinyl alc) cross-linked with epichlorohydrin 73367-80-3D, 12-Bromo-dodecanoic acid, reaction products with poly(vinyl alc) cross-linked with epichlorohydrin
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(**functionalized** cross-linked polyvinyl alc. as new matrix for lipase immobilization)
IT **106-89-8D**, Epichlorohydrin, reaction products with poly(vinyl alc.) and esterified with fatty acids **9002-89-5D**, Poly(vinyl alcohol), reaction products with epichlorohydrin and esterified with fatty acids
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(**functionalized** cross-linked polyvinyl alc. as new matrix for

lipase immobilization)
RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)

RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 32 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:29519 HCAPLUS
DN 130:183217
TI Patterning Thin Films of Poly(ethylene imine) on a Reactive SAM Using Microcontact Printing
AU Yan, Lin; Huck, Wilhelm T. S.; Zhao, Xiao-Mei; Whitesides, George M.
CS Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, 02138, USA
SO Langmuir (1999), 15(4), 1208-1214
CODEN: LANGD5; ISSN: 0743-7463
PB American Chemical Society
DT Journal
LA English
AB Patterning of poly(ethylene imine) (PEI) on a surface into structures having submicron edge resolution was carried out to obtain thin films useful in mol. electronics, optical devices, sensors, and tissue engineering. The procedure consists of three steps: (1) formation of a reactive self-assembled monolayer (SAM) terminating in interchain carboxylic anhydride groups on gold and **silver**; (2) patterning of this SAM by microcontact printing (μCP) using a poly(dimethylsiloxane) (PDMS) stamp inked with PEI; (3) hydrolysis of the unreacted anhydride groups with base and **removal** of noncovalently bound PEI. The PEI contains primary and secondary amines that are reactive toward the anhydride groups. The patterned thin films of PEI are attached covalently to the SAM via amide bonds. The pendant, unreacted primary and secondary amines of the attached PEI can be used as reactive nucleophilic groups in further steps of chemical modification. This type of post-modification was illustrated by allowing the amine groups of the covalently attached PEI to react with perfluorooctanoyl chloride, palmitoyl chloride, palmitic anhydride, and poly(styrene-alt-maleic anhydride). The PEI films and their derivs. were characterized using atomic force microscopy (AFM), SEM, polarized IR external reflectance spectroscopy (PIERS), contact angles of **water**, and XPS.
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 73

ST polyethyleneimine patterning microcontact printing self assembled monolayer; polydimethylsiloxane stamp microcontact printing patterning polyethyleneimine; amine group attached patterned polyethyleneimine modification

IT Contact angle
Optical films
Surface composition
Wetting
(patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

IT Polyimides, properties
Polyimides, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(polyether-; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

IT Polyethers, properties
Polyethers, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(polyimide-; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

IT Self-assembled monolayers
(reactive; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

IT Polysiloxanes, uses
RL: NUU (Other use, unclassified); USES (Uses)
(stamp; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

IT Polymer morphology
(surface, patterning; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

IT **9002-98-6D**, reaction products **26913-06-4D**, Poly[imino(1,2-ethanediyl)], reaction products
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further **functionalization** of patterned films)

IT 112-67-4D, Palmitoyl chloride, reaction products with PEI, surface compds. 335-64-8D, Perfluorooctanoyl chloride, reaction products with PEI, surface compds. 623-65-4D, Palmitic anhydride, reaction products with PEI, surface compds. 106209-33-0D, Maleic anhydride-styrene-alternating copolymer, reaction products with PEI, surface compds.
RL: PRP (Properties)
(patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

IT 9016-00-6, Di-Me siloxane, SRU 31900-57-9, **Dimethylsilanediol** homopolymer
RL: NUU (Other use, unclassified); USES (Uses)
(stamp; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

IT **7440-21-3**, **Silicon**, uses 7440-32-6, Titanium, uses 7440-57-5, Gold, uses

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(substrate; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

IT 69839-68-5, 16-Mercaptohexadecanoic acid
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(surface reactive species; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

IT 121-44-8, uses 407-25-0, Trifluoroacetic anhydride
RL: NUU (Other use, unclassified); USES (Uses)
(surface treatment reagent; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

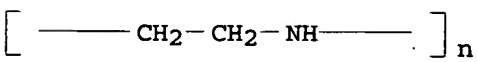
IT **9002-98-6D**, reaction products **26913-06-4D**, Poly[imino(1,2-ethanediyl)], reaction products
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further **functionalization** of patterned films)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

RN 26913-06-4 HCAPLUS
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



IT **7440-21-3**, **Silicon**, uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(substrate; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

RN 7440-21-3 HCAPLUS
CN Silicon (7CI, 8CI, 9CI) (CA INDEX NAME)

Si

RE.CNT 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 33 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:684882 HCAPLUS
DN 129:290529
TI Polymers with terminal **thiol** functionality
IN Maignan, Jean
PA L'Oreal, Fr.
SO PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9844024	A1	19981008	WO 1998-FR620	19980326
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	FR 2761691	A1	19981009	FR 1997-4085	19970403
	FR 2761691	B1	19990514		
	CA 2284896	AA	19981008	CA 1998-2284896	19980326
	AU 9870522	A1	19981022	AU 1998-70522	19980326
	EP 971972	A1	20000119	EP 1998-917248	19980326
	EP 971972	B1	20040414		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000509763	T2	20000802	JP 1998-541234	19980326
	JP 3413212	B2	20030603		
	BR 9815464	A	20010731	BR 1998-15464	19980326
	AT 264357	E	20040415	AT 1998-917248	19980326
	ES 2219884	T3	20041201	ES 1998-917248	19980326
	MX 9908947	A	20000131	MX 1999-8947	19990929
	US 6395867	B1	20020528	US 2000-402201	20000121
PRAI	FR 1997-4085	A	19970403		
	WO 1998-FR620	W	19980326		

AB Hyperbranched polymers or dendrimers, useful as antioxidants, comprise terminal functional groups XC(Y)ASH [A = (un)substituted C1-C12 (cyclo)alkanediyl, optionally unsatd. and/or interrupted by hetero atom(s); X = nucleophilic group; Y = O, NH]. Thus, generation 1 PAMAM dendrimer was treated with an equivalent amount of γ-thiobutyrolactone to prepare a dendritic compound with 8 terminal SH groups.
IC ICM C08G083-00
ICS A61K007-48
CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 62
ST antioxidant dendritic polymercaptan; polyamide polyamine dendrimer **thiol** terminated
IT Antioxidants
Reducing agents
(dendritic or hyperbranched polymers with terminal **thiol** functionality as)
IT Cosmetics
(dendritic or hyperbranched polymers with terminal **thiol** functionality in)
IT Polyamines

Polyamines
Polyamines
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-, dendrimers, reaction products with thiobutyrolactone; preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

IT Dendritic polymers
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-polyamines, reaction products with thiobutyrolactone; preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

IT Polyamides, preparation
Polyamides, preparation
Polyamides, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamine-, dendrimers, reaction products with thiobutyrolactone; preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

IT Polyamines
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

IT 26937-01-9DP, PAMAM, reaction products with thiobutyrolactone
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(dendritic; preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

IT 1003-10-7DP, γ-Thiobutyrolactone, reaction products with dendritic polyamines **9002-98-6DP**, Polyethylenimine, reaction products with thiobutyrolactone 142986-44-5DP, reaction products with thiobutyrolactone 214335-17-8P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of dendritic or hyperbranched polymers with terminal **thiol functionality** as antioxidants)

IT 1003-10-7, γ-Thiobutyrolactone 142986-44-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

IT **9002-98-6DP**, Polyethylenimine, reaction products with thiobutyrolactone
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of dendritic or hyperbranched polymers with terminal **thiol functionality** as antioxidants)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 34 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:501561 HCAPLUS
DN 127:126302
TI Method for identifying and quantifying polymers utilizing immunoassay techniques
IN Keller, Lorraine Holowach; Weinstein, Barry
PA Rohm and Haas Company, USA
SO Eur. Pat. Appl., 8 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 785431	A1	19970723	EP 1997-300221	19970115
	EP 785431	B1	20020529		
	R: BE, DE, ES, FR, GB, IT, NL				
	ZA 9700248	A	19970718	ZA 1997-248	19970113
	NO 9700167	A	19970721	NO 1997-167	19970115
	AU 9710163	A1	19970724	AU 1997-10163	19970115
	AU 705491	B2	19990520		
	CA 2195288	AA	19970719	CA 1997-2195288	19970116
	BR 9700705	A	19980818	BR 1997-705	19970116
	US 6197522	B1	20010306	US 1997-783727	19970116
	JP 09218199	A2	19970819	JP 1997-17683	19970117
	CN 1165298	A	19971119	CN 1997-102272	19970117
	TW 454088	B	20010911	TW 1997-86104286	19970403
PRAI	US 1996-10184P	P	19960118		

AB Disclosed is a method for identifying and quantifying polymers in aqueous systems, especially water treatment systems, by immunoassays, wherein at least a portion of the polymers contains a detectable terminus selected from a chain transfer agent, an initiator (or fragment thereof), or a group attached to the chain transfer agent, such method comprising the steps of: (1) obtaining a sample of the aqueous system to be tested and incubating the sample with an appropriate monoclonal or polyclonal antibody and (2) detecting and measuring the degree of binding of the monoclonal or polyclonal antibody to identify the polymers and to determine the polymeric concentration in the aqueous system. Also disclosed are new hybridoma cell lines that express monoclonal antibodies that specifically recognize such a detectable terminus.

IC ICM G01N033-53
CC 61-5 (**Water**)
Section cross-reference(s): 9, 15, 35, 80
ST polymer water sol detn immunoassay; water treatment polymer detn immunoassay; hybridoma monoclonal antibody polymer immunoassay
IT Peroxides, analysis
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(acyl, polymers containing; polymers detection and determination in aqueous systems by
immunoassay)

IT Peroxides, analysis
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study);
USES (Uses)
(alkyl, polymers containing; polymers detection and determination in aqueous systems by
immunoassay)
IT **Thiols** (organic), analysis
Thiols (organic), analysis
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study);
USES (Uses)
(amino, polymers containing; polymers detection and determination in aqueous systems by
immunoassay)
IT Immunoassay
(enzyme-linked immunosorbent assay; polymers detection and determination in aqueous systems by immunoassay)
IT Antibodies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU
(Biological study, unclassified); ANST (Analytical study); BIOL
(Biological study); PROC (Process); USES (Uses)
(monoclonal; polymers detection and determination in aqueous systems by
immunoassay)
IT Esters, analysis
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study);
USES (Uses)
(peroxy, polymers containing; polymers detection and determination in aqueous systems
by immunoassay)
IT Hemocyanins
Ovalbumin
Proteins, general, uses
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST
(Analytical study); PREP (Preparation); USES (Uses)
(phenylphosphinic acid-modified polyacrylate conjugates; polymers
detection and determination in aqueous systems by immunoassay)
IT Azo compounds
Hydroperoxides
Sulfinic acids
Thiols (organic), analysis
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study);
USES (Uses)
(polymers containing; polymers detection and determination in aqueous systems by
immunoassay)
IT Chain transfer agents
Hybridoma
Immunoassay
Water purification
(polymers detection and determination in aqueous systems by immunoassay)
IT Polymers, analysis
RL: ANT (Analyte); ANST (Analytical study)
(polymers detection and determination in aqueous systems by immunoassay)
IT Polymerization catalysts
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(polymers detection and determination in aqueous systems by immunoassay)
IT Antibodies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU
(Biological study, unclassified); ANST (Analytical study); BIOL
(Biological study); PROC (Process); USES (Uses)
(polymers detection and determination in aqueous systems by immunoassay)
IT Albumins, uses

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(serum, phenylphosphinic acid-modified polyacrylate conjugates; polymers detection and determination in aqueous systems by immunoassay)

IT Amines, analysis
Amines, analysis
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**thiol**, polymers containing; polymers detection and determination in aqueous systems by immunoassay)

IT Polymers, analysis
RL: ANT (Analyte); ANST (Analytical study)
(water-soluble; polymers detection and determination in aqueous systems by immunoassay)

IT 6303-21-5, Phosphinic acid 13598-36-2, Phosphonic acid
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(polymers containing; polymers detection and determination in aqueous systems by immunoassay)

IT 446-35-5D, 2,4-Difluoronitrobenzene, polymers containing 485-47-2D, Ninhydrin, polymers containing 502-02-3D, halides, polymers containing 502-02-3D, polymers containing 2508-19-2D, 2,4,6-Trinitrobenzenesulfonic acid, polymers containing 2508-19-2D, 2,4,6-Trinitrobenzenesulfonic acid, salts, polymers containing 4272-77-9D, 1-(Dimethylamino)-5-naphthalenesulfonic acid, halides, polymers containing 4272-77-9D, 1-(Dimethylamino)-5-naphthalenesulfonic acid, polymers containing 9003-04-7, Acusol 445N 53326-91-3D, 3-Benzoylquinoline-2-carboxaldehyde, polymers containing 126769-01-5D, polymers containing
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(polymers detection and determination in aqueous systems by immunoassay)

IT 52-90-4D, Cysteine, reaction products with polyacrylic acid and trinitrobenzenesulfonic acid 1779-48-2D, Phenylphosphinic acid, reaction products with polyacrylic acid and cysteine and trinitrobenzenesulfonic acid
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(polymers detection and determination in aqueous systems by immunoassay)

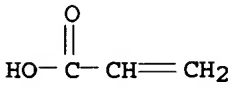
IT 9001-78-9DP, Alkaline phosphatase, dinitrobenzenesulfonic acid conjugates
9003-01-4DP, Polyacrylic acid, **functional** group-terminated; protein conjugates 30729-49-8DP, alkaline phosphatase conjugates
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(polymers detection and determination in aqueous systems by immunoassay)

IT **9003-01-4DP**, Polyacrylic acid, **functional** group-terminated; protein conjugates
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(polymers detection and determination in aqueous systems by immunoassay)

RN 9003-01-4 HCAPLUS
CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
CMF C3 H4 O2



L58 ANSWER 35 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:234200 HCAPLUS
DN 126:225709
TI Process for producing functionalized vinyl alcohol polymers
IN Sato, Toshiaki; Fujiwara, Naoki; Jikihara, Atsushi
PA Kuraray Co., Ltd., Japan
SO Eur. Pat. Appl., 23 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 757060	A2	19970205	EP 1996-112361	19960731
	EP 757060	A3	19980128		
	EP 757060	B1	19991020		
	R: DE, FR, GB, IT				
	JP 09100319	A2	19970415	JP 1996-179188	19960709
	JP 09100320	A2	19970415	JP 1996-179189	19960709
	US 5710211	A	19980120	US 1996-684484	19960719
PRAI	JP 1995-196713	A	19950801		
	JP 1995-196714	A	19950801		

AB Vinyl alc. polymers bearing functional groups which could not readily be prepared by conventional methods are prepared by reaction of vinyl ester polymers bearing epoxy groups with **thiols** or **thiol** esters followed by hydrolysis. AIBN-initiated polymerization of 405 parts vinyl acetate with 11 parts allyl glycidyl ether in MeOH at 60° gave a copolymer (I) containing 2.1 mol% glycidyl ether and having mol. weight 80,000. Heating 100 parts 44.5% MeOH solution of I with 2.2 parts HSCH2CH2OH and 0.03 parts NaOH at 50° for 1 h, adding 40 parts 10% methanolic NaOH, and heating at 40° for 5 h gave a polymer with vinyl alc. group content 97.0 mol% and HOCH2CH2S- group content 2.1 mol%, a 4% DMSO solution of which had viscosity 60.5 cP at 20°.

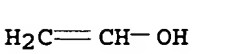
IC ICM C08F008-12
ICS C08F008-34
CC 35-8 (Chemistry of Synthetic High Polymers)
ST vinyl alc polymer functional; mercaptoethanol adduct epoxy polymer; epoxide polymer functionalization; glycidyl allyl ether copolymer functionalization; vinyl acetate copolymer functionalization
IT **Thiols** (organic), preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(reaction products with vinyl acetate-epoxide copolymers, hydrolyzed; process for producing functionalized vinyl alc. polymers)
IT Epoxides
RL: IMF (Industrial manufacture); PREP (Preparation)
(reaction products with vinyl acetate-thioester copolymers, hydrolyzed; process for producing functionalized vinyl alc. polymers)
IT 52-90-4DP, Cysteine, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 60-23-1DP, 2-Amino-1-ethanethiol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 60-24-2DP, 2-Mercaptoethanol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 70-49-5DP, 2-Mercaptosuccinic acid, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 96-09-3DP,

Styrene oxide, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 96-27-5DP, 3-Mercapto-1,2-**propanediol**, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 98-02-2DP, Furfuryl mercaptan, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 106-92-3DP, Allyl glycidyl ether, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 108-98-5DP, Thiophenol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 112-55-0DP, 1-Dodecanethiol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 137-07-5DP, 2-Aminobenzenethiol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 286-20-4DP, Cyclohexene oxide, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 507-09-5DP, Thioacetic acid, reaction groups with poly(vinyl acetate) and epoxides, hydrolyzed 637-89-8DP, 4-Mercaptophenol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 831-23-2DP, 2-Naphthalenethiol acetate, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 870-23-5DP, Allyl mercaptan, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 930-37-0DP, Glycidyl methyl ether, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 1074-36-8DP, 4-Mercaptobenzoic acid, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 2461-15-6DP, 2-Ethylhexyl glycidyl ether, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 3375-50-6DP, 2-Mercaptoethanesulfonic acid, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 4420-74-0DP, 3-(Trimethoxysilyl)-1-propanethiol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed **9002-89-5DP**, Poly(vinyl alcohol), **functional** derivs. **9003-20-7DP**, Poly(vinyl acetate), thioacetate group-terminated, hydrolyzed 9011-14-7DP, thioacetate group-terminated, reaction products with epoxides, hydrolyzed 25587-27-3DP, reaction products with epoxides, hydrolyzed 26141-88-8P, Glycidyl methacrylate-methyl methacrylate copolymer 26403-72-5DP, Polyethylene glycol diglycidyl ether, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 26951-52-0DP, Polytetramethylene glycol diglycidyl ether, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 29190-76-9DP, Allyl glycidyl ether-ethylene-vinyl acetate copolymer, reaction products with **thiols**, hydrolyzed 31048-51-8DP, Allyl glycidyl ether-vinyl acetate copolymer, reaction products with **thiols**, hydrolyzed 40349-67-5DP, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 86630-59-3DP, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 118549-88-5DP, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 162844-36-2DP, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 188117-56-8DP, reaction products with **thiols**, hydrolyzed 188117-58-0DP, reaction products with **thiols**, hydrolyzed 188117-59-1DP, reaction products with **thiols**, hydrolyzed 188117-61-5DP, reaction products with **thiols**, hydrolyzed 188117-65-9DP, reaction products with **thiols**, hydrolyzed 188117-69-3DP, reaction products with **thiols**, hydrolyzed 188117-71-7DP, reaction products with epoxides, hydrolyzed 188117-73-9DP, reaction products with epoxides, hydrolyzed 188117-76-2DP, reaction products with epoxides, hydrolyzed 188117-81-9DP, reaction products with epoxides, hydrolyzed 188117-84-2DP, reaction products with epoxides, hydrolyzed 188117-86-4DP, reaction products with epoxides, hydrolyzed 188117-89-7DP, reaction products with epoxides, hydrolyzed 188117-90-0DP, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 188117-91-1DP, reaction products with vinyl acetate-thioester copolymers, hydrolyzed
RL: IMF (Industrial manufacture); PREP (Preparation)
(process for producing **functionalized** vinyl alc. polymers)

IT **9002-89-5DP**, Poly(vinyl alcohol), **functional** derivs.
9003-20-7DP, Poly(vinyl acetate), thioacetate group-terminated, hydrolyzed
RL: IMF (Industrial manufacture); PREP (Preparation)
(process for producing **functionalized** vinyl alc. polymers)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

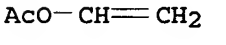
CRN 557-75-5
CMF C2 H4 O



RN 9003-20-7 HCAPLUS
CN Acetic acid ethenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 108-05-4
CMF C4 H6 O2



L58 ANSWER 36 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:80539 HCAPLUS
DN 126:89941
TI Water-soluble polymers and compositions for separation of metals from aqueous streams
IN Smith, Barbara F.; Robison, Thomas W.; Gohdes, Joel W.
PA Regents of the University of California, USA; Smith, Barbara F.; Robison, Thomas W.; Gohdes, Joel W.
SO PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9638493	A1	19961205	WO 1996-US8188	19960530
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
	US 5891956	A	19990406	US 1995-454451	19950530
	CA 2221618	AA	19961205	CA 1996-2221618	19960530
	AU 9659599	A1	19961218	AU 1996-59599	19960530
	EP 828779	A1	19980318	EP 1996-916867	19960530
	EP 828779	B1	20000913		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	CN 1186506	A	19980701	CN 1996-194346	19960530

	CN 1108332	B	20030514		
	JP 11506488	T2	19990608	JP 1996-536710	19960530
	BR 9608743	A	19991207	BR 1996-8743	19960530
	AT 196305	E	20000915	AT 1996-916867	19960530
	ES 2152529	T3	20010201	ES 1996-916867	19960530
	US 6441089	B1	20020827	US 1999-287303	19990406
	AU 762882	B2	20030710	AU 2000-48978	20000802
PRAI	US 1995-454451	A	19950530		
	AU 1996-59599	A3	19960530		
	WO 1996-US8188	W	19960530		

AB For selective separation of metal ions from aqueous streams or metals from solid matrixes, ≥1 water-soluble polymers including functional groups selected from amino groups, carboxylic acid groups, phosphonic acid groups, phosphonic ester groups, acylpyrazolone groups, hydroxamic acid groups, aza crown ether groups, oxy crown ethers groups, guanidinium groups, amide groups, ester groups, aminodicarboxylic groups, permethylated polyvinylpyridine groups, permethylated amine groups, mercaptosuccinic acid groups, alkyl **thiol** groups, and N-alkylthiourea groups are used. Polyvinylpyrrolidone, NaOH, and hydroxylamine hydrochloride were mixed and heated at 90° 2 days to give a hydroxamic acid functional polymer which as a 0.1% solution at pH 2, 6, and 8 showed almost no retention of Am at pH 2 and 6, but 99% retention at pH 8.

IC ICM C08G073-06
ICS C08F226-02; C08F226-04; C08F020-04; C08F020-56; C08F028-02; C08F024-00

CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 60

ST metal selective sepn functional polymer; water sol polymer functional metal sepn; hydroxamic acid polymer metal sepn; americium aq sepn functional polymer

IT Sequestering agents
(water-soluble polymers bearing functional groups that bind metal ion(s) for separation from aqueous streams)

IT 7440-35-9, Americium, processes
RL: REM (Removal or disposal); PROC (Process)
(separation of; water-soluble polymers bearing functional groups that bind metal ion(s) for separation from aqueous streams)

IT 79-06-1DP, Acrylamide, reaction product with polyethyleneimine 79-08-3DP, Bromoacetic acid, reaction product with polyethyleneimine 140-88-5DP, Ethyl acrylate, reaction product with polyethyleneimine 420-12-2DP, Ethylenesulfide, reaction product with polyethyleneimine 556-61-6DP, Methylisothiocyanate, reaction product with polyethyleneimine 1314-80-3DP, Phosphorus sulfide (P2S5), reaction product with polyvinylpyrrolidone 4743-99-1DP, reaction product with polyethyleneimine 5470-11-1DP, Hydroxylamine hydrochloride, reaction product with polyvinylpyrrolidone 6953-60-2DP, S-Acetylmercaptosuccinic anhydride, reaction product with polyethyleneimine **9002-98-6DP**, reaction product, bearing **functional** groups 9002-98-6P 9003-39-8DP, Poly(vinylpyrrolidone), reaction product with hydroxylamine hydrochloride 9003-47-8DP, Poly(vinylpyridine), permethylated, salt 13598-36-2DP, Phosphorous acid, reaction product with polyethyleneimine, preparation 26336-38-9DP, Polyvinyl amine, permethylated, salt **30551-89-4DP**, Polyallylamine, permethylated, salt 31197-05-4DP, reaction product with polyethyleneimine 33100-27-5DP, 15-Crown-5 ether, reaction product with polyvinyl alc. 52328-05-9DP, reaction product with polyethyleneimine 66168-85-2DP, reaction product with polyethyleneimine 98704-88-2DP, reaction product with polyethyleneimine 185746-06-9DP, reaction product with polyethyleneimine 185746-07-0DP, hydrolyzed 185746-07-0P 185746-08-1P 185746-09-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-soluble polymers bearing **functional** groups that bind metal ion(s) for separation from aqueous streams)

IT **9002-98-6DP**, reaction product, bearing **functional** groups
30551-89-4DP, Polyallylamine, permethylated, salt
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-soluble polymers bearing **functional** groups that bind metal ion(s) for separation from aqueous streams)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

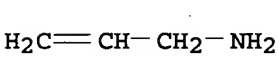
CM 1

CRN 151-56-4
CMF C2 H5 N

RN 30551-89-4 HCAPLUS
CN 2-Propen-1-amine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-11-9
CMF C3 H7 N



L58 ANSWER 37 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:551342 HCAPLUS
DN 125:171108
TI Functionalized photoinitiators, derivatives and macromers therefrom and their use
IN Chabrecek, Peter; Dietliker, Kurt; Lohmann, Dieter
PA Ciba-Geigy A.-G., Switz.
SO PCT Int. Appl., 76 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 5

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9620919	A1	19960711	WO 1995-EP5012	19951218
W: AL, AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TT, UA, US, UZ, VN				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
TW 434456	B	20010516	TW 1995-84101034	19950208
CA 2208664	AA	19960711	CA 1995-2208664	19951218

	AU 9643873	A1	19960724	AU 1996-43873	19951218
	AU 700575	B2	19990107		
	EP 800511	A1	19971015	EP 1995-942692	19951218
	EP 800511	B1	20000126		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE				
	BR 9510177	A	19971223	BR 1995-10177	19951218
	CN 1174547	A	19980225	CN 1995-197513	19951218
	JP 10512856	T2	19981208	JP 1995-520701	19951218
	ES 2142506	T3	20000416	ES 1995-942692	19951218
	PT 800511	T	20000731	PT 1995-942692	19951218
	ZA 9511002	A	19960701	ZA 1995-11002	19951228
	FI 9702698	A	19970825	FI 1997-2698	19970623
	NO 9703021	A	19970901	NO 1997-3021	19970627
	GR 3032930	T3	20000731	GR 2000-400626	20000310
PRAI	CH 1994-3968	A	19941230		
	WO 1995-EP5012	W	19951218		

OS MARPAT 125:171108

AB Photoinitiators are obtained based on α-aminoacetophenones functionalized with organic diisocyanates and are used to modify surfaces. The photoinitiators are especially useful for modifying the surfaces of contact lenses. Thus, 2-ethyl-2-(dimethylamino)-1-[4-(2-hydroxyethoxy)phenyl]-4-penten-1-one was treated with IPDI to give a monoisocyanate product (I). I was used to treat a polybutadiene surface under UV irradiation and the surface was then treated with Jeffamine M 2070. The treated surface had advancing and receding contact angles 66 and 47°, resp., compared to 102 and 78° for untreated polymer, resp.

IC ICM C07C271-20
ICS C07D295-104; C08F002-50; G03F007-031; C08F008-30; G02B001-04

CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 63

ST photoinitiator aminoacetophenone isocyanate deriv; macromer photoinitiator coating contact lens

IT Collagens, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(Serva 17440, reaction products, with isocyanate-functionalized aminoacetophenones; functionalized photoinitiators, macromers and polymeric products for coatings)

IT Siloxanes and Silicones, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(aminopropyl Me, di-Me, KF 8003, reaction products, with isocyanate-functionalized aminoacetophenones; functionalized photoinitiators, macromers and polymeric products)

IT Lenses
(contact, functionalized photoinitiators, macromers and polymeric products for coatings)

IT Siloxanes and Silicones, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(di-Me, aminopropyl group-terminated, reaction products, with isocyanate-functionalized aminoacetophenones; functionalized photoinitiators, macromers and polymeric products)

IT Siloxanes and Silicones, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(hydrogen, reaction products, with isocyanate-functionalized aminoacetophenones; functionalized photoinitiators, macromers and polymeric products)

IT Monomers
RL: IMF (Industrial manufacture); PREP (Preparation)
(macro-, functionalized photoinitiators, macromers and polymeric products)

IT Crosslinking catalysts

Polymerization catalysts
(photochem., functionalized photoinitiators, macromers and polymeric products)

IT Coating materials
Inks
(photocurable, functionalized photoinitiators, macromers and polymeric products)

IT Siloxanes and Silicones, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(vinyl group-containing, Siloprene U Additive V 20, reaction products, with isocyanate-functionalized aminoacetophenones; functionalized photoinitiators, macromers and polymeric products)

IT 9003-17-2DP, Polybutadiene, reaction products with isocyanate-functionalized aminoacetophenones
RL: IMF (Industrial manufacture); PREP (Preparation)
(1,2-syndiotactic; functionalized photoinitiators, macromers and polymeric products)

IT 156327-07-0DP, reaction products, with isocyanate-functionalized aminoacetophenones
RL: IMF (Industrial manufacture); PREP (Preparation)
(KF 6001 and KF 6002; functionalized photoinitiators, macromers and polymeric products)

IT **9002-89-5DP**, Poly(vinyl alcohol), reaction products with isocyanate-**functionalized** aminoacetophenones
RL: IMF (Industrial manufacture); PREP (Preparation)
(Serva 03/20; **functionalized** photoinitiators, macromers and polymeric products)

IT 9004-54-0DP, Dextran, reaction products with isocyanate-functionalized aminoacetophenones
RL: IMF (Industrial manufacture); PREP (Preparation)
(Serva G; functionalized photoinitiators, macromers and polymeric products)

IT 97917-34-5DP, reaction products, with isocyanate-functionalized aminoacetophenones
RL: IMF (Industrial manufacture); PREP (Preparation)
(X 22-161B; functionalized photoinitiators, macromers and polymeric products)

IT 5495-84-1, Quantacure ITX
RL: CAT (Catalyst use); USES (Uses)
(catalyst; functionalized photoinitiators, macromers and polymeric products)

IT 180681-72-5 180839-10-5 180845-39-0
RL: CAT (Catalyst use); USES (Uses)
(functionalized photoinitiators, macromers and polymeric products)

IT 79-06-1DP, 2-Propenamide, polymers with isocyanate-functionalized aminoacetophenones and siloxanes, graft 88-12-0DP, polymers with isocyanate-functionalized aminoacetophenones and siloxanes, graft 97-90-5DP, polymers with isocyanate-functionalized aminoacetophenones and siloxanes 868-77-9DP, polymers with isocyanate-functionalized aminoacetophenones and siloxanes, graft 2680-03-7DP, polymers with isocyanate-functionalized aminoacetophenones and siloxanes, graft 9056-77-3DP, Polyethylene glycol methacrylate, polymers with isocyanate-functionalized aminoacetophenones and siloxanes, graft 17096-07-0DP, polymers with isocyanate-functionalized aminoacetophenones and siloxanes, graft 180845-20-9P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(functionalized photoinitiators, macromers and polymeric products)

IT 694-83-7DP, 1,2-Diaminocyclohexane, reaction products with isocyanate-functionalized aminoacetophenones and siloxanes

9002-98-6DP, Polyethylenimine, reaction products with isocyanate-**functionalized** aminoacetophenones 31900-57-9DP, **Dimethylsilanediol** homopolymer, reaction products with isocyanate-functionalized aminoacetophenones 65605-36-9DP, Jeffamine ED 2001, reaction products with isocyanate-functionalized aminoacetophenones 83713-01-3DP, Jeffamine M 2070, reaction products with isocyanate-functionalized aminoacetophenones 180681-41-8DP, reaction products with siloxanes 180681-44-1P 180681-45-2DP, reaction products with siloxanes 180681-46-3DP, reaction products with siloxanes 180839-07-0DP, reaction products with siloxanes 180844-87-5P 180844-91-1P 180844-93-3P 180844-97-7P 180845-14-1P 180845-16-3P 180845-34-5P 180845-36-7P 180845-37-8P
RL: IMF (Industrial manufacture); PREP (Preparation)
(**functionalized** photoinitiators, macromers and polymeric products)

IT 180681-41-8P 180681-42-9P 180681-45-2P 180681-46-3P 180838-99-7P 180839-07-0P 180839-09-2P 180844-79-5P 180844-81-9P 180844-83-1P 180844-85-3P 180844-89-7P 180844-95-5P 180844-99-9P 180845-12-9P 180845-18-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(functionalized photoinitiators, macromers and polymeric products)

IT 868-77-9 7659-36-1, 2-Aminoethyl methacrylate 88324-58-7 119312-38-8 180681-43-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(functionalized photoinitiators, macromers and polymeric products)

IT 180845-22-1P 180845-24-3P 180845-26-5P 180845-28-7P 180845-30-1P 180845-32-3P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photocurable ink; functionalized photoinitiators, macromers and polymeric products)

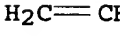
IT 101-68-8 584-84-9 4098-71-9 16938-22-0, 2,2,4-Trimethylhexamethylene diisocyanate 109320-32-3, Desmodur 3390
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; functionalized photoinitiators, macromers and polymeric products)

IT **9002-89-5DP**, Poly(vinyl alcohol), reaction products with isocyanate-**functionalized** aminoacetophenones
RL: IMF (Industrial manufacture); PREP (Preparation)
(Serva 03/20; **functionalized** photoinitiators, macromers and polymeric products)

RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



IT **9002-98-6DP**, Polyethylenimine, reaction products with isocyanate-**functionalized** aminoacetophenones
RL: IMF (Industrial manufacture); PREP (Preparation)
(**functionalized** photoinitiators, macromers and polymeric products)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

L58 ANSWER 38 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:59888 HCAPLUS
DN 124:178971
TI Abrasion resistant inorganic/organic coating materials prepared by the sol-gel method
AU Wen, J.; Vasudevan, V. J.; Wilkes, G. L.
CS Department of Chemical Engineering, Virgina Polytechnic Institute and State University, Blackburg, VA, 24061, USA
SO Journal of Sol-Gel Science and Technology (1995), 5(2), 115-26
CODEN: JSGTEC; ISSN: 0928-0707
PB Kluwer
DT Journal
LA English
AB Novel abrasion-resistant coating materials prepared by the sol-gel method were developed and applied on the polymeric substrates bisphenol-A polycarbonate and diallyl diglycol carbonate resin (CR-39). These coatings are inorg./organic hybrid network materials synthesized from 3-isocyanatopropyltriethoxysilane-functionalized orgs. and metal alkoxide. The organic components are 3.3'-iminobisproylamine, resorcinol, diethylenetriamine, poly(ethyleneimine), glycerol and a series of **diols**. The metal alkoxides are tetraethoxysilane (TEOS) and tetramethoxysilane (TMOS). These materials are spin coated onto bisphenol-A polycarbonate and CR-39 sheets and thermally cured to obtain a transparent coating of a few microns in thickness. Following the curing, the abrasion resistance is measured and compared with an uncoated control. The abrasion resistance of inorg./organic hybrid coatings in the neat form or containing metal alkoxide can be very effective to improve the abrasion resistance of polymeric substrates. The adhesion tests show that the adhesion between coating and substrate can be greatly improved by treating the polymeric substrate surface with a primer solution of isopropanol containing 3-aminopropyltriethoxysilane (3-APS). The interaction between 3-APS and the polycarbonate surface was investigated by a mol. dynamics simulation. The results strongly suggest that the hydrogen bonding between the amino group of the 3-APS and ester group in the polycarbonate backbone are sufficiently strong to influence the orientation of the primer mols. The abrasion resistance of these new coating systems is discussed in light of the structure of the organic components. All of these results show that these coating materials have excellent abrasion resistance and have potential applications as coating materials for lenses and other polymeric products.
CC 42-10 (Coatings, Inks, and Related Products)
ST abrasion resistant inorg org coating; isocyanatopropyltriethoxysilane tetramethoxysilane tetraethoxysilane coating polycarbonate; iminobisproylamine diethylenetriamine polyethyleneimine glycerol **diol** coating
IT Glycols, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane; abrasion-resistant inorg./organic coating materials prepared by the sol-gel method for polycarbonates or CR-39)

IT Coating materials
(abrasion-resistant inorg./organic coating materials prepared by the sol-gel method for polycarbonates or CR-39)

IT Polycarbonates, uses
RL: NUU (Other use, unclassified); USES (Uses)
(abrasion-resistant inorg./organic coating materials prepared by the sol-gel method for polycarbonates or CR-39)

IT 24936-68-3, Bisphenol A-carbonic acid copolymer, sru, uses 25037-45-0, Bisphenol A-carbonic acid copolymer 25656-90-0, CR-39
RL: NUU (Other use, unclassified); USES (Uses)
(abrasion-resistant inorg./organic coating materials prepared by the sol-gel method for polycarbonates or CR-39)

IT 56-18-8D, 3.3'-Iminobispropylamine, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane 56-81-5D, Glycerol, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane 78-10-4D, Tetraethoxysilane, polymers with 3-isocyanatopropyltriethoxysilane-functionalized amines or alcs. 108-46-3D, Resorcinol, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane 111-40-0D, Diethylenetriamine, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane 681-84-5D, Tetramethoxysilane, polymers with 3-isocyanatopropyltriethoxysilane-functionalized amines or alcs. **9002-98-6D**, 3-isocyanatopropyltriethoxysilane-**functionalized**, polymers with tetraethoxysilane and tetramethoxysilane **26913-06-4D**, Poly[imino(1,2-ethanediyl)], 3-isocyanatopropyltriethoxysilane-**functionalized**, polymers with tetraethoxysilane and tetramethoxysilane
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(abrasion-resistant inorg./organic coating materials prepared by the sol-gel method for polycarbonates or CR-39)

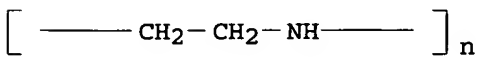
IT **9002-98-6D**, 3-isocyanatopropyltriethoxysilane-**functionalized**, polymers with tetraethoxysilane and tetramethoxysilane **26913-06-4D**, Poly[imino(1,2-ethanediyl)], 3-isocyanatopropyltriethoxysilane-**functionalized**, polymers with tetraethoxysilane and tetramethoxysilane
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(abrasion-resistant inorg./organic coating materials prepared by the sol-gel method for polycarbonates or CR-39)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

RN 26913-06-4 HCAPLUS
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



L58 ANSWER 39 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:950027 HCAPLUS
DN 124:12639
TI Mercury sorption by "non-functional" crosslinked polyacrylamides
AU Bicak, Niyazi; Sherrington, David C.
CS Department of Pure and Applied Chemistry, University of Strathclyde, 295 Cathedral Street, Glasgow, G1 1XL, UK
SO Reactive & Functional Polymers (1995), 27(3), 155-61
CODEN: RFPOF6; ISSN: 1381-5148
PB Elsevier
DT Journal
LA English
AB Three powdered crosslinked non-**functional polyacrylamide** gels and 4 spherical crosslinked polyacrylamide resins were prepared by **aqueous** solution and inverse suspension polymerization resp. Methylene bisacrylamide, ethylene bisacrylamide and N,N-bis-acryloyl piperazine were used as crosslinkers. The 7 polymers readily and rapidly sorb Hg(II) quant. from a 100 ppm solution (pH 6.4), and the maximum Hg capacity is .apprx.1.5 g per g of dry polymer. Quant. stripping of Hg from loaded resins was demonstrated using hot acetic acid, which indicates that resins can be designed for recycling or continuous use in metal recovery operations. Qual. expts. with linear polyacrylamide show that other metal ions Ni(II), Cu(II), Co(II), Cd(II), Zn(II), Fe(II) and Fe(III) are unaffected; thus, the resins are cost effective selective sorbents for Hg removal and recovery.
CC 54-2 (Extractive Metallurgy)
Section cross-reference(s): 38
ST mercury sorption crosslinked polyacrylamide resin; amide group polyacrylamide mercury interaction recovery
IT Sorption
(mercury sorption and recovery with crosslinked polyacrylamide resins and gels)
IT Polyamides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(acrylic, mercury sorption and recovery with crosslinked polyacrylamide resins and gels)
IT **7439-97-6P**, Mercury, preparation
RL: **PUR (Purification or recovery)**; PREP (Preparation)
(mercury sorption and recovery with crosslinked polyacrylamide resins and gels)
IT 110-26-9D, Methylene bisacrylamide, crosslinking products with acrylamide 2956-58-3D, N,N'-Ethylene bisacrylamide, crosslinking products with acrylamide 9003-05-8D, Polyacrylamide, crosslinking products with amides 17308-56-4D, crosslinking products with acrylamide
RL: TEM (Technical or engineered material use); USES (Uses)
(mercury sorption and recovery with crosslinked polyacrylamide resins and gels)
IT **7439-97-6P**, Mercury, preparation
RL: **PUR (Purification or recovery)**; PREP (Preparation)
(mercury sorption and recovery with crosslinked polyacrylamide resins

and gels)
RN 7439-97-6 HCAPLUS
CN Mercury (8CI, 9CI) (CA INDEX NAME)

Hg

L58 ANSWER 40 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:921860 HCAPLUS
DN 123:314800
TI Functionalization of polyethylene glycol for formation of active sulfone-terminated PEG derivatives for binding to proteins and biologically compatible materials.
IN Harris, J. Milton
PA Shearwater Polymers, Inc., USA
SO PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9513312	A1	19950518	WO 1994-US13013	19941114
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ				
RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5446090	A	19950829	US 1993-151481	19931112
CA 2176203	AA	19950518	CA 1994-2176203	19941114
CA 2176203	C	20030610		
AU 9510548	A1	19950529	AU 1995-10548	19941114
AU 687937	B2	19980305		
EP 728155	A1	19960828	EP 1995-901226	19941114
EP 728155	B1	20020403		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CN 1137280	A	19961204	CN 1994-194460	19941114
CN 1085689	B	20020529		
BR 9408048	A	19961224	BR 1994-8048	19941114
JP 09508926	T2	19970909	JP 1994-514031	19941114
JP 3114998	B2	20001204	JP 1995-514031	19941114
PL 180149	B1	20001229	PL 1994-314298	19941114
EE 3448	B1	20010615	EE 1996-128	19941114
RU 2176253	C2	20011127	RU 1996-113123	19941114
EP 1176160	A2	20020130	EP 2001-122161	19941114
EP 1176160	A3	20040303		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, LT				
AT 215577	E	20020415	AT 1995-901226	19941114
ES 2173943	T3	20021101	ES 1995-901226	19941114
RO 118434	B1	20030530	RO 1996-959	19941114
SK 284527	B6	20050505	SK 1996-608	19941114
US 5739208	A	19980414	US 1995-473734	19950607
BG 63399	B1	20011231	BG 1996-100568	19960506
FI 9602004	A	19960510	FI 1996-2004	19960510
NO 9601918	A	19960712	NO 1996-1918	19960510

	NO 315377	B1	20030825		
	US 5900461	A	19990504	US 1998-27679	19980223
	US 2002150548	A1	20021017	US 1999-294188	19990419
	US 6610281	B2	20030826		
	US 2004037801	A1	20040226	US 2003-647621	20030825
	US 6894025	B2	20050517		
PRAI	US 1993-151481	A	19931112		
	EP 1995-901226	A3	19941114		
	WO 1994-US13013	W	19941114		
	US 1995-473734	A3	19950607		
	US 1998-27679	A3	19980223		
	US 1999-294188	A1	19990419		

AB A poly(ethylene glycol) (PEG) derivative is disclosed that is activated with a sulfone moiety for selective attachment to **thiol** moieties on mols. and surfaces (e.g., for manufacture of biol. active and biocompatible mols.). The activated PEG, of general formula R(OCH2CH2)nY [Y = SO2CH:CH2 and SO2CH2CH2X (R is the rest of the oxyethylene chain, X is halogen)], is water soluble, hydrolytically stable for extended periods, and forms hydrolytically stable linkages with **thiol** moieties (e.g., they are not reversible in reducing environments). Methods for synthesizing the active PEG and for preparing conjugates of the active PEG and other substances, including biol. active substances, were also described. A typical preparation involves a multistep reaction of PEG with (1) esterification with MeSO2Cl, (2) substitution with HSCH2CH2OH, (3) oxidation to form the sulfone, (4) chlorination with SOCl2, and (5) dehydrochlorination to form vinyl sulfone-terminated PEG. The reaction scheme is also suitable for preparation of sulfone-terminated polypropylene glycol, ethoxylated glycerol, ethoxylated sorbitol, ethoxylated glucose, and polyvinyl alc.

IC ICM C08G065-32
ICS A61K047-48

CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 6, 34, 63

ST polyethylene glycol functionalization active sulfone; polyoxyalkylene functionalization active sulfone; protein binding polyoxyalkylene functionalization; vinyl sulfone polyethylene glycol derivatization; pharmaceutical polyoxyalkylene functionalization protein binding

IT Polyoxyalkylenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(functionalization of polyethylene glycol for formation of active sulfone-terminated PEG derivs. for binding to proteins)

IT Esterification
(of polyethylene glycol for preparation of active sulfone-terminated polyoxyalkylenes)

IT Oxidation
(of polyethylene glycol hydroxy(thioethyl) derivs. for preparation of active sulfone-terminated polyoxyalkylenes)

IT Substitution reaction, nucleophilic
(of polyethylene glycol mesylate for preparation of active sulfone-terminated polyoxyalkylenes)

IT Chlorination
Dehydrochlorination
(of polyethylene glycol sulfone derivs. for preparation of active sulfone-terminated polyoxyalkylenes)

IT Albumins, reactions
Proteins, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(polyoxyalkylene-containing; functionalization of polyethylene glycol for formation of active sulfone-terminated PEG derivs. for binding to proteins)

IT **9002-89-5DP**, Polyvinyl alcohol, active sulfone-terminated
25322-68-3DP, active sulfone-terminated 25322-69-4DP, active sulfone-terminated 31694-55-0DP, active sulfone-terminated 53694-15-8DP, active sulfone-terminated 65323-88-8DP, active sulfone-terminated 170358-95-9P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(**functionalization** of polyethylene glycol for formation of active sulfone-terminated PEG derivs. for binding to proteins)

IT 170358-93-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and chlorination of)

IT 170358-94-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and dehydrochlorination of)

IT 165194-30-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and nucleophilic substitution reaction of)

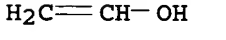
IT 170358-92-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and oxidation of)

IT **9002-89-5DP**, Polyvinyl alcohol, active sulfone-terminated
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(**functionalization** of polyethylene glycol for formation of active sulfone-terminated PEG derivs. for binding to proteins)

RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



L58 ANSWER 41 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:410302 HCAPLUS
DN 121:10302
TI Reaction products of amino or amide group-containing polymer with compounds containing functional and linking groups
IN Geckeler, Kurt E.; Zhou, Rongnong
PA Germany
SO Ger. Offen., 10 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 4227019	A1	19940217	DE 1992-4227019	19920814
PRAI DE 1992-4227019		19920814		

AB A polymer such as poly(ethylenimine), poly(allylamine), chitosan, or

polyacrylamide is reacted with a functional group-containing compound such as phosphonic acid, urea, 8-hydroxyquinoline, phenol, salicylic acid, PhSO3H, Alizarine Red S, 4-(2-pyridylazo)resorcinol, benzo-15-crown-5, cetylpyridinium chloride, or Na dodecylbenzenesulfonate and a linking compound such as HCHO to give reaction products for use in anal., diagnostic, therapeutic, and other processes (e.g., anion or cation exchange).

IC ICM C08F008-00
ICS C08G085-00; C08B037-08; C08H001-00; G01N021-78; B01J039-18

ICA C08F008-40; C08F008-34; C08F026-02; C08F020-56; C08G073-04; A61K049-00; B01J039-18

CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 37, 38, 46

ST polyamine reaction product functional; polyamide reaction product functional; formaldehyde polyamide polyamine deriv functional; polyethylenimine reaction product functional; polyallylamine reaction product functional; polyacrylamide reaction product functional; chitosan reaction product functional; phosphonic deriv polyamine formaldehyde; carboxy deriv polyamine formaldehyde; phenol deriv polyamine formaldehyde; sulfonic deriv polyamine formaldehyde; urea deriv polyamine formaldehyde; surfactant deriv polyamine formaldehyde; anion exchanger polyamine deriv; cation exchanger polyamine deriv

IT Crosslinking agents
(polyamine-functional compound reaction products containing, preparation and uses of)

IT Anion exchangers
Cation exchangers
Sequestering agents
Surfactants
(polyamine-functional compound-formaldehyde reaction products, preparation and uses of)

IT Carboxylic acids, preparation
Phenols, preparation
Sulfonic acids, preparation
RL: PREP (Preparation)
(reaction products with formaldehyde and polyamines, preparation and uses of)

IT Polyamines
RL: PREP (Preparation)
(compds., reaction products with formaldehyde and functional compds., preparation and uses of)

IT Amines, preparation
RL: PREP (Preparation)
(polymers, reaction products with formaldehyde and functional compds., preparation and uses of)

IT 50-00-0DP, Formaldehyde, reaction products with polyamines and functional compds. 57-13-6DP, Urea, reaction products with polyamines and formaldehyde 62-56-6DP, Thiourea, reaction products with polyamines and formaldehyde 69-72-7DP, Salicylic acid, reaction products with polyamines and formaldehyde 81-88-9DP, Rhodamine B, reaction products with polyamines and formaldehyde 84-88-8DP, 8-Hydroxyquinoline-5-sulfonic acid, reaction products with polyamines and formaldehyde 88-75-5DP, 2-Nitrophenol, reaction products with polyamines and formaldehyde 98-11-3DP, Benzenesulfonic acid, reaction products with polyamines and formaldehyde 108-46-3DP, Resorcinol, reaction products with polyamines, formaldehyde, and functional aromatic compds. 108-95-2DP, Phenol, reaction products with polyamines and formaldehyde 120-80-9DP, 1,2-**Benzenediol**, reaction products with polyamines and formaldehyde 123-03-5DP, Cetylpyridinium chloride, reaction products with polyamines and formaldehyde 130-22-3DP, Alizarine red S, reaction

products with polyamines and formaldehyde 140-95-4DP, Dimethylolurea, reaction products with polyamines and formaldehyde 148-24-3DP, 8-Hydroxyquinoline, reaction products with polyamines and formaldehyde 260-94-6DP, Acridine, reaction products with polyamines and formaldehyde 552-16-9DP, 2-Nitrobenzoic acid, reaction products with polyamines and formaldehyde 1141-59-9DP, 4-(2-Pyridylazo)resorcinol, reaction products with polyamines and formaldehyde 1149-16-2DP, Glyoxalbis(2-hydroxyanil), reaction products with polyamines and formaldehyde 1787-61-7DP, Eriochrome black T, reaction products with polyamines and formaldehyde 3569-82-2DP, Salicylfluorone, reaction products with polyamines and formaldehyde **9002-98-6DP**, Polyaziridine, reaction products with formaldehyde and **functional** compds. 9003-05-8DP, Polyacrylamide, reaction products with formaldehyde and functional compds. 9012-76-4DP, Chitosan, reaction products with formaldehyde and functional compds. 13598-36-2DP, Phosphonic acid, reaction products with polyamines and formaldehyde 14098-44-3DP, Benzo-15-crown-5, reaction products with polyamines and formaldehyde 25155-30-0DP, Sodium dodecylbenzenesulfonate, reaction products with polyamines and formaldehyde 29511-50-0DP, N,N-Dimethyl-N'-benzoylthiourea, reaction products with polyamines and formaldehyde **30551-89-4DP**, Poly(allylamine), reaction products with formaldehyde and **functional** compds.
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and uses of)

IT **9002-98-6DP**, Polyaziridine, reaction products with formaldehyde and **functional** compds. **30551-89-4DP**, Poly(allylamine), reaction products with formaldehyde and **functional** compds.
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and uses of)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

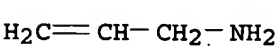
CM 1

CRN 151-56-4
CMF C2 H5 N

RN 30551-89-4 HCAPLUS
CN 2-Propen-1-amine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-11-9
CMF C3 H7 N



L58 ANSWER 42 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:9111 HCAPLUS
DN 120:9111
TI Branched polyethylenimine support for resins with retention properties for

heavy metal ions
AU Rivas, Bernabe L.; Maturana, Hernan A.; Peric, Ivan M.
CS Fac. Cienc. Quim., Univ. Concepcion, Concepcion, Chile
SO Angewandte Makromolekulare Chemie (1993), 211, 103-12
CODEN: ANMCBO; ISSN: 0003-3146
DT Journal
LA English
AB A crosslinked polyethylenimine, using epichlorohydrin as crosslinker, was prepared and subsequently modified in order to obtain the corresponding N-methylated, -carboxymethylated, or -phosphonomethylated derivs. The sorption characteristics of these functionalized resins were studied by a batch equilibration technique, for uptake of Cu(II), Fe(II), Fe(III), and uranyl ions from aqueous solution Resins with tertiary amine or ammonium groups showed negligible sorption for Fe(II), Fe(III), and Cu(II) at pH 1, in contrast to high sorption for U(VI), which was readily eluted with Na2CO3.
CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 38, 55
ST polyethylenimine crosslinked sorption heavy metal
IT Sorption
(of heavy metals by functionalized epichlorohydrin-modified aziridine homopolymers)
IT Polyamines
RL: USES (Uses)
(sorption of heavy metals by functionalized epichlorohydrin-modified)
IT 77-78-1D, Dimethylsulfate, reaction products with epichlorohydrin-functionalized aziridine homopolymers **106-89-8D**, reaction products with aziridine homopolymer 3926-62-3D, Sodium chloroacetate, reaction products with epichlorohydrin-functionalized aziridine homopolymers **9002-98-6D**, Aziridine homopolymer, reaction products with epichlorohydrin and **functionalizing** agents
RL: USES (Uses)
(sorption of heavy metals by)
IT 7439-89-6, Iron, properties 7440-50-8, Copper, properties 7440-61-1, Uranium, properties 7732-18-5, Water, properties
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(sorption of, by functionalized epichlorohydrin-modified aziridine homopolymers)
IT **106-89-8D**, reaction products with aziridine homopolymer **9002-98-6D**, Aziridine homopolymer, reaction products with epichlorohydrin and **functionalizing** agents
RL: USES (Uses)
(sorption of heavy metals by)
RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)

CH_2-Cl

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

L58 ANSWER 43 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:61848 HCAPLUS
DN 118:61848
TI Adsorption of metal ions on polyaminated highly porous chitosan chelating resin
AU Kawamura, Yoshihide; Mitsuhashi, Masaki; Tanibe, Hiroaki; Yoshida, Hiroyuki
CS Inst. Res. Dev., Fuji Spinning Co., Ltd., Shizuoka, 410-13, Japan
SO Industrial & Engineering Chemistry Research (1993), 32(2), 386-91
CODEN: IECRED; ISSN: 0888-5885
DT Journal
LA English
AB A highly porous chelating resin was fabricated from the natural polysaccharide chitosan. The adsorption capacity was increased by polyamination with poly(ethyleneimine) (mol. weight 10,000). The capacity was about 1-2 times larger than that of com. chelate resins. The selectivity for adsorption of metal ions on the resin, which was determined for a single **solute** at pH = 7, was Hg(II) > UO2(II) > Cd(II) > Zn(II) > Cu(II) > Ni(II). Mg(II), Ca(II), Ga(III), As(III), and Sr(II) were not adsorbed on the resin at all. The selectivity depended on the pH of each metal solution The equilibrium isotherms for adsorption of HgCl2 were correlated by the Langmuir equation. The saturation capacities were close to the concentration of amino groups fixed on the resin. When HCl or NaCl coexisted in HgCl2 solution and their concns. were <100 mol/m3, the saturation capacity of HgCl2 was hardly affected by them. When 500 mol/m3 H2SO4 coexisted in HgCl2 solution, extremely low pH inhibited the adsorption of Hg(II).
CC 44-7 (Industrial Carbohydrates)
ST chitosan chelating resin metal adsorption
IT Transition metals, properties
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(adsorption of, on poly(ethyleneimine)-modified chitosan chelating resins, selectivity in)
IT Crosslinking
(of chitosan, by ethylene glycol diglycidyl ether, in chelating resin preparation)
IT Adsorption
(of metals on poly(ethyleneimine)-modified chitosan chelating resins, selectivity in)
IT Cation exchangers
(chelating, poly(ethyleneimine)-modified chitosan, for metals, selectivity of)
IT 7429-90-5, Aluminum, properties 7439-91-0, Lanthanum, properties 7439-92-1, Lead, properties 7439-95-4, Magnesium, properties 7439-96-5, Manganese, properties 7439-97-6, Mercury, properties 7439-98-7, Molybdenum, properties 7440-02-0, Nickel, properties 7440-21-3, Silicon, properties 7440-24-6, Strontium, properties 7440-31-5, Tin, properties 7440-32-6, Titanium, properties 7440-38-2, Arsenic, properties 7440-39-3, Barium, properties 7440-42-8, Boron, properties 7440-43-9, Cadmium, properties 7440-45-1, Cerium, properties 7440-47-3, Chromium, properties 7440-48-4, Cobalt, properties 7440-50-8, Copper, properties 7440-55-3, Gallium, properties 7440-56-4, Germanium, properties 7440-61-1, Uranium, properties 7440-65-5, Yttrium, properties 7440-66-6, Zinc, properties 7440-70-2, Calcium, properties 7440-74-6, Indium, properties

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(adsorption of, on poly(ethyleneimine)-modified chitosan chelating resins)

IT **9002-98-6D**, reaction products with crosslinked epoxy-**functionalized** chitosan 9012-76-4D, Chitosan, crosslinked, reaction products with polyethyleneimine
RL: USES (Uses)
(chelating resins, adsorption of metal ions on, selectivity in)

IT 2224-15-9, Ethylene glycol diglycidyl ether
RL: USES (Uses)
(chitosan crosslinked with, in preparation of chelating resins)

IT 1398-61-4, Chitin
RL: USES (Uses)
(chitosan preparation from)

IT **106-89-8DP**, Epichlorohydrin, reaction products with crosslinked chitosan
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with polyethyleneimine)

IT **9002-98-6D**, reaction products with crosslinked epoxy-**functionalized** chitosan
RL: USES (Uses)
(chelating resins, adsorption of metal ions on, selectivity in)

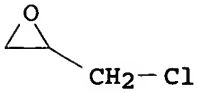
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

IT **106-89-8DP**, Epichlorohydrin, reaction products with crosslinked chitosan
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with polyethyleneimine)

RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



L58 ANSWER 44 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:100764 HCAPLUS
DN 112:100764
TI Dispersing agents for solid particles in organic compounds
IN Canestri, Giuseppe
PA Italy
SO Eur. Pat. Appl., 116 pp.
CODEN: EPXXDW
DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 328206	A2	19890816	EP 1989-200261	19890206
	EP 328206	A3	19910703		

R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE

PRAI IT 1988-19392 A 19880212

AB The title dispersants, useful in thermoplastics and liquid diluents (e.g. printing inks and coatings) have mol. weight 2500-70,000 and are prepared from reactive compns. at the limit of plastics and compns. of C8-20 aliphatic hydroxy acids, OH- or COOH-terminated polybutadienes, and COOH-terminated polycaprolactones. Examples include .apprx.250 prepns. and 511 dispersions of pigments, dispersants, and diluents.

IC ICM C08G081-00
ICS B01F017-00; C09B067-00; C09D011-02; C09D017-00

CC 42-6 (Coatings, Inks, and Related Products)
Section cross-reference(s): 38

ST pigment dispersing agent; polybutadiene adduct dispersant; polycaprolactone adduct dispersant; hydroxy acid adduct dispersant

IT Alkyd resins
RL: USES (Uses)
(dispersants, for pigments for inks and prints)

IT Pigments
(dispersion agents for, for paints and inks)

IT Rubber, butadiene, compounds
RL: USES (Uses)
(carboxy-terminated, reaction products, with functional polymers, dispersants for pigments)

IT Siloxanes and Silicones, compounds
RL: USES (Uses)
(di-Me, reaction products, with functional polymers, dispersants for pigments)

IT Polyimides, compounds
RL: USES (Uses)
(polyester-, reaction products, with functional polymers, dispersants for pigments)

IT Polyesters, compounds
RL: USES (Uses)
(polyimide-, reaction products, with functional polymers, dispersants for pigments)

IT Inks
(printing, dispersing agents for pigments in)

IT Epoxy resins, compounds
Fatty acids, compounds
Polyamines
Polyesters, compounds
Resin acids and Rosin acids
RL: USES (Uses)
(reaction products, with functional polymers, dispersants for pigments)

IT Fatty acids, compounds
RL: USES (Uses)
(tall-oil, reaction products, with functional polymers, dispersants for pigments)

IT 77-99-6D, Trimethylolpropane, reaction products with functional polymers
79-10-7D, 2-Propenoic acid, reaction products with functional polymers
80-52-4D, reaction products with functional polymers 81-30-1D, Naphthalenetetracarboxylic dianhydride, reaction products with functional polymers 85-44-9D, 1,3-Isobenzofurandione, reaction products with functional polymers 89-05-4D, Pyromellitic acid, reaction products with functional polymers 91-76-9D, reaction products with functional polymers

92-87-5D, 4,4'-Diaminobiphenyl, reaction products with functional polymers 96-48-0D, reaction products with functional polymers 97-65-4D, Itaconic acid, reaction products with functional polymers 100-21-0D, 1,4-Benzenedicarboxylic acid, reaction products with functional polymers 105-60-2D, reaction products with functional polymers 106-14-9D, 12-Hydroxystearic acid, reaction products with functional polymers 107-15-3D, 1,2-Ethanediamine, reaction products with functional polymers 107-21-1D, 1,2-**Ethanediol**, reaction products with functional polymers 108-29-2D, reaction products with functional polymers 108-31-6D, 2,5-Furandione, reaction products with functional polymers 110-85-0D, Piperazine, reaction products with functional polymers 111-41-1D, reaction products with functional polymers 112-47-0D, 1,10-**Decanediol**, reaction products with functional polymers 115-69-5D, 2-Amino-2-methyl-1,3-**propanediol**, reaction products with functional polymers 115-77-5D, Pentaerythritol, reaction products with functional polymers 123-99-9D, Nonanedioic acid, reaction products with functional polymers 124-09-4D, 1,6-Hexanediamine, reaction products with functional polymers 128-69-8D, reaction products with functional polymers 141-22-0D, reaction products with functional polymers 141-82-2D, Propanedioic acid, reaction products with functional polymers 142-62-1D, Caproic acid, reaction products with functional polymers 514-10-3D, Abietic acid, reaction products with functional polymers 556-67-2D, reaction products with functional polymers 629-11-8D, 1,6-**Hexanediol**, reaction products with functional polymers 693-23-2D, Dodecanedioic acid, reaction products with functional polymers 822-06-0D, reaction products with functional polymers 1122-58-3D, reaction products with functional polymers 1675-54-3D, reaction products with functional polymers 1740-19-8D, Dehydroabietic acid, reaction products with functional polymers 1954-28-5D, Triethylene glycol diglycidyl ether, reaction products with functional polymers 2224-15-9D, reaction products with functional polymers 2421-28-5D, reaction products with functional polymers 2426-08-6D, Butyl glycidyl ether, reaction products with functional polymers 2432-99-7D, 11-Aminoundecanoic acid, reaction products with functional polymers 4097-89-6D, N,N-Bis(2-aminoethyl)-1,2-ethanediamine, reaction products with functional polymers 4767-03-7D, 2,2-Dimethylolpropanoic acid, reaction products with functional polymers 5698-29-3D, 2-Oxonanone, reaction products with functional polymers 6864-37-5D, 3,3'-Dimethyl-4,4'-diaminodicyclohexylmethane, reaction products with functional polymers 7209-38-3D, 1,4-Bis(3-aminopropyl)piperazine, reaction products with functional polymers **9002-98-6D**, reaction products with **functional** polymers 10563-26-5D, N,N'-Bis(3-aminopropyl)ethylene diamine, reaction products with functional polymers 12624-35-0D, reaction products with functional polymers 13190-57-3D, reaction products with functional polymers 13827-62-8D, 2,6-Naphthalenedisulfonyl dichloride, reaction products with functional polymers 16803-97-7D, reaction products with functional polymers 21860-03-7D, 2,5-Di-tert-butylaniline, reaction products with functional polymers 25068-38-6D, reaction products with functional polymers 26603-36-1D, Benzenedimethanamine, reaction products with functional polymers 28631-79-0D, Aminoethylpiperazine, reaction products with functional polymers 36003-87-9D, reaction products with functional polymers 37348-52-0D, DEN 431, reaction products with functional polymers 39817-09-9D, Bisphenol F diglycidyl ether, reaction products with functional polymers **74913-72-7D**, Polymin P, reaction products with functional polymers 111842-58-1D, reaction products with functional polymers 125523-32-2D, Escorez 8000, reaction products with functional polymers 125523-90-2D, Polymin G 10, reaction products with functional polymers
RL: USES (Uses)

(dispersants, for pigments for inks and paints)
IT 9003-17-2
RL: USES (Uses)
(rubber, carboxy-terminated, reaction products, with functional polymers, dispersants for pigments)
IT **9002-98-6D**, reaction products with **functional** polymers
74913-72-7D, Polymin P, reaction products with functional polymers
RL: USES (Uses)
(dispersants, for pigments for inks and paints)
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

RN 74913-72-7 HCAPLUS
CN Polymin P (9CI) (CA INDEX NAME)

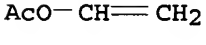
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L58 ANSWER 45 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1984:440058 HCAPLUS
DN 101:40058
TI Adsorption of water-soluble, nonionic polymers onto cellulosic fibers
AU Ishimaru, Yutaka; Lindstroem, Tom
CS Fac. Agric., Kyoto Univ., Kyoto, 606, Japan
SO Journal of Applied Polymer Science (1984), 29(5), 1675-91
CODEN: JAPNAB; ISSN: 0021-8995
DT Journal
LA English
AB Of the 12 nonionic water-soluble polymers tested for adsorption onto 3 different types of softwood pulp (i.e., bleached kraft, unbleached kraft, and mech. pulp) as well as acetylated bleached and unbleached kraft pulp, polymers [i.e., **polyglycidol** [25722-70-7], polyacrylamide (I) [9003-05-8], methylolated I, and poly(vinyl alc.) [9002-89-5]] having an ability to both accept and donate protons are not adsorbed onto any of the pulps, mainly because of the intramol. H bonds in the polymers. Hydrolyzed poly(vinyl acetate) (II) (degree of hydrolysis 87-89 mol%) poly(vinyl Me ether) [9003-09-2], and poly(vinyl pyrolidone) [9003-39-8] are strongly adsorbed onto unbleached kraft pulp, but not at all onto bleached pulp. In this case, the major part of the interaction between the polymers and the fiber surface is caused by an interaction between phenolic and(or) catecholic groups in the lignin in the unbleached pulp and proton-accepting groups in the polymers. Methyl cellulose [9004-67-5], polygalactomannan [11078-30-1], and polymethacrylamide (III) [25014-12-4] show a similar adsorption on bleached and unbleached pulp and are only weakly adsorbed onto mech. pulp. For these polymers H bonding interactions with cellulose are important for the affinity toward the fibers. For hydrophobic group-containing polymers (i.e., hydroxypropyl cellulose [9004-64-2], III, and hydrolyzed II (degree of hydrolysis 78-81 mol%), hydrophobic interactions affect their adsorption behavior.
CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)

ST adsorption nonionic polymer cellulose pulp
IT Pulp, cellulose
(adsorption by, of nonionic polymers, polymer functional group-pulp interactions in relation to)
IT Adsorption
(of nonionic water-soluble polymers, by cellulose pulps, polymer functional group-pulp interactions in relation to)
IT 9002-89-5 9003-05-8 9003-05-8D, methylolated 9003-09-2
9003-20-7D, hydrolyzed 9003-39-8 9004-64-2 9004-67-5
11078-30-1 25014-12-4 25722-70-7
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(adsorption of, by cellulose pulps, polymer **functional** group-pulp interactions in relation to)
IT **9003-20-7D**, hydrolyzed
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(adsorption of, by cellulose pulps, polymer **functional** group-pulp interactions in relation to)
RN 9003-20-7 HCAPLUS
CN Acetic acid ethenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 108-05-4
CMF C4 H6 O2



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